AL NOOR INTERNATIONAL SCHOOL

College Board
Pre-SAT STUDY and PRACTICE GUIDE
Redesigned SAT

"Your gateway in achieving your dreams."

Grade 9

SECTION I Introduction to the SAT Exam

A. What is SAT

It's one of two standardized college admissions tests. It's run by the College Board, a non-profit that also administers the PSAT and the AP (Advanced Placement) program.

The SAT was originally adapted from an Army IQ test and administered as a college admissions test for the first time in 1926. However, it didn't really catch on until 1933, when the president of Harvard started using the test to assess scholarship applicants because he believed it was an effective measurement of intellectual potential. This view of the SAT helped propel its popularity—by the 1940s, it had become the standard test for all college applicants and was administered to over 300,000 people across the country.

The SAT's dominance of college admissions testing was challenged with the creation of the ACT in 1959. Though initially much less popular than the SAT, the ACT took hold in the Midwest and the mountain states and, in 2010, surpassed the SAT to become the most popular college admissions test.

In part because of the increased competition from the ACT, the SAT recently underwent some big changes in 2016. The basic purpose and form of the test are the same (it's still a multiple-choice test used for college admissions decisions), but certain aspects of the structure and content have changed. Schools must have approved of these changes because, in 2018, the SAT reclaimed its title and once again became the most popular college admissions test.

B. Why SAT

The SAT (Scholastic Aptitude Test) is a standardized test meant to show schools how prepared you are for college by measuring key skills like reading comprehension, computational ability, and clarity of expression. Because so many students take the test, it also provides schools with data about how you compare to your peers nationwide.

You'll almost certainly need to take the SAT if you're applying to colleges or universities, since most require you to submit test scores with your application. Depending on where you want to apply, your SAT score can account for as much as 50% of the admission decision, so a strong standardized test score is vital.

C. SAT Scoring Protocol

When you take the SAT, you'll be given a total score between 400 and 1600. The SAT has two major sections: Evidence-Based Reading and Writing (combined from Reading + Writing and Language), and Math. You can earn a scaled score of between 200 and 800 points on each section. But where does the scoring scale come from?

You start with a raw score for each topic area. Your raw score is simply the number of questions you answered correctly; skipped or wrong questions do not add or subtract from your raw score. That number is then converted into a scaled score through a process called equating—the

College Board is a bit cagey about how exactly this works, but it's based on years' worth of data rather than how people do on a specific test date.

The average SAT score is 1068, with some variation from year to year, but what counts as a good score for you will really depend on where you're looking to apply. To get into a top-tier school you'll likely need to score about 1500 or higher, but for the local branch of the state university you might be just fine with a 1050.

D. How and where to apply SAT exam

SAT registration deadlines fall approximately five weeks before each test date. Register online on the College Board website. The College Board may require SAT registration by mail under special circumstances.
SAT tests dates can be found on the College Board website. You can also register to take the SAT test online with the College Board. Be sure to register using your name as it appears on your photo identification.

E. Cost of SAT Exam

The registration fee for the SAT exam for international students is $60. Remember that the additional services may vary with different locations and test centers. International students can only attempt the Digital SAT, and only the students in the US can access the pen and paper version of the SAT exam.

F. Ways to prepare for taking SAT Exam

If you've started thinking about college, career, or life after high school, you've heard about tests like the SAT. Colleges—including those that are test optional use test scores to help them make admissions, financial aid, and course placement decisions. It makes sense to plan to do your best on the exam. Here are some tips to help you do that:

Best Way to Prepare

The best way to prepare for the SAT is to work hard both inside and outside the classroom. Take challenging courses, study hard, and read and write as much as you can.

Know what to expect.

Being familiar with the format of the SAT will help you feel more comfortable on test day. Go to our website to learn about each section. Talk to friends or siblings who've already taken the SAT. You'll feel more confident if you know the test format beforehand, and you can save valuable time during the exam.

Use our free, personalized practice tools.

By practicing with thousands of interactive problems, instant feedback, and video lessons, you can prepare for the test and keep track of your progress at satpractice.org.

Take practice tests — for free.

You can find free practice exams on various websites as well as in study guides in the library, and bookstores. These practice exams can help you discover your strengths and weaknesses and learn to manage your time wisely during the test.

CollegeBoard

Pre-SAT® Practice Test #1

IMPORTANT REMINDERS

1. A no. 2 pencil is required for the test. Do not use a mechanical pencil or pen.

2. Sharing any questions with anyone is a violation of Test Security and Fairness policies and may result in your scores being canceled.

This cover is representative of what you'll see on test day.

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Test begins on the next page.

Reading Test

65 MINUTES, 52 QUESTIONS

Turn to Section 1 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage or pair of passages below is followed by a number of questions. After readingeach passage or pair, choose the best answer to each question based on what is stated or implied in the passage or passages and in any accompanying graphics (such as a table orgraph).

Questions 1-10 are based on the followingpassage.

This passage is from Lydia Minatoya, *The Strangeness of Beauty*. ©1999 by Lydia Minatoya. The setting is Japan in1920. Chie and her daughter Naomi are members of the House of Fuji, a noble family.

Akira came directly, breaking all tradition. Was that it? Had he followed form—had he asked his mother to speak to his father to approach a go-between—would Chie have been more receptive?

He came on a winter's eve. He pounded on the door while a cold rain beat on the shuttered veranda,so at first Chie thought him only the wind. The maidknew better. Chie heard her soft scuttling footsteps, the creak of the door. Then the maid brought a calling card to the drawing room, for Chie.

Chie was reluctant to go to her guest; perhaps she was feeling too cozy. She and Naomi were reading ata low table set atop a charcoal brazier. A thick quilt spread over the sides of the table so their legs were tucked inside with the heat.

"Who is it at this hour, in this weather?" Chie questioned as she picked the name card off the maid's lacquer tray.

"Shinoda, Akira. Kobe Dental College," she read.

Naomi recognized the name. Chie heard a soft intake of air.

"I think you should go," said Naomi.

Akira was waiting in the entry. He was in his early twenties, slim and serious, wearing the black military-style uniform of a student. As he bowed—his hands hanging straight down, a black cap in one, a yellow oil-paper umbrella in the other—Chie glanced beyond him. In the glistening surface of the courtyard's rain-drenched paving stones, she saw his reflection like a dark double.

"Madame," said Akira, "forgive my disruption, but I come with a matter of urgency."

His voice was soft, refined. He straightened and stole a deferential peek at her face.

In the dim light his eyes shone with sincerity. Chie felt herself starting to like him.

"Come inside, get out of this nasty night. Surely your business can wait for a moment or two."

"I don't want to trouble you. Normally I would approach you more properly but I've received word of a position. I've an opportunity to go to America, as dentist for Seattle's Japanese community."

"Congratulations," Chie said with amusement."That is an opportunity, I'm sure. But how am I involved?"

Even noting Naomi's breathless reaction to the name card, Chie had no idea. Akira's message, delivered like a formal speech, filled her with maternal amusement. You know how children speak so earnestly, so hurriedly, so endearingly about things that have no importance in an adult's mind?That's how she viewed him, as a child.

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CONTINUE

It was how she viewed Naomi. Even though Naomi was eighteen and training endlessly in the arts needed to make a good marriage, Chie had made no effort to find her a husband.

Akira blushed.

"Depending on your response, I may stay in Japan. I've come to ask for Naomi's hand."

Suddenly Chie felt the dampness of the night.

"Does Naomi know anything of your . . . ambitions?"

"We have an understanding. Please don't judge my candidacy by the unseemliness of this proposal. I ask directly because the use of a go-between takes much time. Either method comes down to the same thing: a matter of parental approval. If you give your consent, I become Naomi's yoshi.* We'll live in the House of Fuji. Without your consent, I must go to America, to secure a new home for my bride."

Eager to make his point, he'd been looking her full in the face. Abruptly, his voice turned gentle. "I see I've startled you. My humble apologies. I'll take no more of your evening. My address is on my card. If you don't wish to contact me, I'll reapproach you in two weeks' time. Until then, good night."

He bowed and left. Taking her ease, with effortless grace, like a cat making off with a fish.

"Mother?" Chie heard Naomi's low voice and turned from the door. "He has asked you?"

The sight of Naomi's clear eyes, her dark brows gave Chie strength. Maybe his hopes were preposterous.

"Where did you meet such a fellow? Imagine! He thinks he can marry the Fuji heir and take her to America all in the snap of his fingers!"

Chie waited for Naomi's ripe laughter.

Naomi was silent. She stood a full half minute looking straight into Chie's eyes. Finally, she spoke. "I met him at my literary meeting."

Naomi turned to go back into the house, then stopped.

"Mother."

"Yes?"

"I mean to have him."

* a man who marries a woman of higher status and takes her family's name

1

Which choice best describes what happens in the passage?

A) One character argues with another character who intrudes on her home.

B) One character receives a surprising request from another character.

C) One character reminisces about choices she has made over the years.

D) One character criticizes another character for pursuing an unexpected course of action.

2

Which choice best describes the developmental pattern of the passage?

A) A careful analysis of a traditional practice

B) A detailed depiction of a meaningful encounter

C) A definitive response to a series of questions

D) A cheerful recounting of an amusing anecdote

3

As used in line 1 and line 65, "directly" most nearly means

A) frankly.

B) confidently.

C) without mediation.

D) with precision.

4

Which reaction does Akira most fear from Chie?

A) She will consider his proposal inappropriate.

B) She will mistake his earnestness for immaturity.

C) She will consider his unscheduled visit an imposition.

D) She will underestimate the sincerity of his emotions.

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CONTINUE

5

Which choice provides the best evidence for the answer to the previous question?

A) Line 33 ("His voice . . . refined")
B) Lines 49-51 ("You . . . mind")
C) Lines 63-64 ("Please . . . proposal")
D) Lines 71-72 ("Eager . . . face")

6

In the passage, Akira addresses Chie with

A) affection but not genuine love.
B) objectivity but not complete impartiality.
C) amusement but not mocking disparagement.
D) respect but not utter deference.

7

The main purpose of the first paragraph is to

A) describe a culture.
B) criticize a tradition.
C) question a suggestion.
D) analyze a reaction.

8

As used in line 2, "form" most nearly means

A) appearance.
B) custom.
C) structure.
D) nature.

9

Why does Akira say his meeting with Chie is "a matter of urgency" (line 32)?

A) He fears that his own parents will disapprove of Naomi.
B) He worries that Naomi will reject him and marry someone else.
C) He has been offered an attractive job in another country.
D) He knows that Chie is unaware of his feelings for Naomi.

10

Which choice provides the best evidence for the answer to the previous question?

A) Line 39 ("I don't . . . you")
B) Lines 39-42 ("Normally . . . community")
C) Lines 58-59 ("Depending . . . Japan")
D) Lines 72-73 ("I see . . . you")

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Questions 11-21 are based on the followingpassage and supplementary material.

This passage is adapted from Francis J. Flynn and Gabrielle S. Adams, "Money Can't Buy Love: Asymmetric Beliefs aboutGift Price and Feelings of Appreciation." ©2008 by Elsevier Inc.

Every day, millions of shoppers hit the stores in full force—both online and on foot—searching frantically for the perfect gift. Last year, Americans spent over $30 billion at retail stores in the month of December alone. Aside from purchasing holiday gifts, most people regularly buy presents for other occasions throughout the year, including weddings, birthdays, anniversaries, graduations, and baby showers. This frequent experience of gift-giving can engender ambivalent feelings in gift-givers. Many relish the opportunity to buy presents because gift-giving offers a powerful means to build stronger bonds with one's closest peers. At the same time, many dread the thought of buying gifts; they worry that their purchases will disappoint rather thandelight the intended recipients.

Anthropologists describe gift-giving as a positive social process, serving various political, religious, and psychological functions. Economists, however, offer a less favorable view. According to Waldfogel (1993), gift-giving represents an objective waste of resources. People buy gifts that recipients would not choose to buy on their own, or at least not spend as much money to purchase (a phenomenon referred to as ''the deadweight loss of Christmas"). To wit, givers are likely to spend $100 to purchase a gift that receivers would spend only $80 to buy themselves. This ''deadweight loss" suggests that gift-givers are not very good at predicting what gifts others will appreciate. That in itself is not surprising to social psychologists. Research has found that people often struggle to take account of others' perspectives— their insights are subject to egocentrism, social projection, and multiple attribution errors.

What is surprising is that gift-givers have considerable experience acting as both gift-givers and gift-recipients, but nevertheless tend to overspend each time they set out to purchase a meaningful gift. In the present research, we propose a unique psychological explanation for this overspending problem—i.e., that gift-givers equate how much they spend with how much recipients will appreciate the gift (the more expensive the gift, the stronger a gift-recipient's feelings of appreciation). Although a link between gift price and feelings of appreciation might seem intuitive to gift-givers, such an assumption may be unfounded. Indeed, we propose that gift-recipients will be less inclined to base their feelings of appreciation on the magnitude of a gift than givers assume.

Why do gift-givers assume that gift price is closelylinked to gift-recipients' feelings of appreciation?

Perhaps givers believe that bigger (i.e., more expensive) gifts convey stronger signals of thoughtfulness and consideration. According to Camerer (1988) and others, gift-giving represents a symbolic ritual, whereby gift-givers attempt to signal their positive attitudes toward the intended recipient and their willingness to invest resources in a future relationship. In this sense, gift-givers may be motivated to spend more money on a gift in order to send a "stronger signal" to their intended recipient. As for gift-recipients, they may not construe smaller and larger gifts as representing smaller and larger signals of thoughtfulness and consideration.

The notion of gift-givers and gift-recipients being unable to account for the other party's perspective seems puzzling because people slip in and out of these roles every day, and, in some cases, multiple times in the course of the same day. Yet, despite the extensive experience that people have as both givers and receivers, they often struggle to transfer information gained from one role (e.g., as a giver) and apply it in another, complementary role (e.g., as a receiver). In theoretical terms, people fail to utilize information about their own preferences and experiences in order to produce more efficient outcomes in their exchange relations. In practical terms, people spend hundreds of dollars each year on gifts, but somehow never learn to calibrate their gift expenditures according to personal insight.

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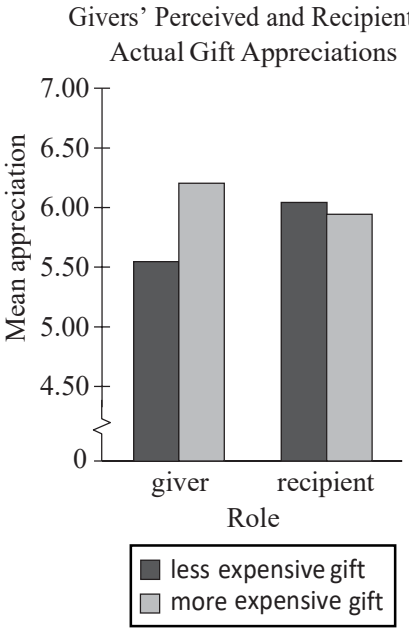

11

The authors most likely use the examples in lines 1-9 of the passage ("Every . . . showers") to highlight the

A) regularity with which people shop for gifts.
B) recent increase in the amount of money spent on gifts.
C) anxiety gift shopping causes for consumers.
D) number of special occasions involvinggift-giving.

12

In line 10, the word "ambivalent" most nearly means

A) unrealistic.
B) conflicted.
C) apprehensive.
D) supportive.

The authors indicate that people value gift-giving because they feel it

A) functions as a form of self-expression.
B) is an inexpensive way to show appreciation.
C) requires the gift-recipient to reciprocate.
D) can serve to strengthen a relationship.

14

Which choice provides the best evidence for theanswer to the previous question?

A) Lines 10-13 ("Many . . . peers")
B) Lines 22-23 ("People . . . own")
C) Lines 31-32 ("Research . . . perspectives")
D) Lines 44-47 ("Although . . . unfounded")

13

15

The "social psychologists" mentioned in paragraph 2 (lines 17-34) would likely describe the "deadweight loss" phenomenon as

A) predictable.
B) questionable.
C) disturbing.
D) unprecedented.

16

The passage indicates that the assumption made by gift-givers in lines 41-44 may be

A) insincere.
B) unreasonable.
C) incorrect.
D) substantiated.

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CONTINUE

17

Which choice provides the best evidence for the answer to the previous question?

A) Lines 53-55 ("Perhaps . . . consideration")
B) Lines 55-60 ("According . . . relationship")
C) Lines 63-65 ("As . . . consideration")
D) Lines 75-78 ("In . . . relations")

18

As it is used in line 54, "convey" most nearly means

A) transport.
B) counteract.
C) exchange.
D) communicate.

19

The authors refer to work by Camerer and others (line 56) in order to

A) offer an explanation.
B) introduce an argument.
C) question a motive.
D) support a conclusion.

20

The graph following the passage offers evidence that gift-givers base their predictions of how much a gift will be appreciated on

A) the appreciation level of the gift-recipients.
B) the monetary value of the gift.
C) their own desires for the gifts they purchase.
D) their relationship with the gift-recipients.

21

The authors would likely attribute the differences in gift-giver and recipient mean appreciation as represented in the graph to

A) an inability to shift perspective.
B) an increasingly materialistic culture.
C) a growing opposition to gift-giving.
D) a misunderstanding of intentions.

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Questions 22-31 are based on the followingpassage and supplementary material.

This passage is adapted from J. D. Watson and F. H. C. Crick, "Genetical Implications of the Structure of DeoxyribonucleicAcid." ©1953 by Nature Publishing Group. Watson and Crick deduced the structure of DNA using evidence from RosalindFranklin and R. G. Gosling's X-ray crystallography diagrams of DNA and from Erwin Chargaff's data on the base composition of DNA.

The chemical formula of deoxyribonucleic acid (DNA) is now well established. The molecule is a very long chain, the backbone of which consists of a regular alternation of sugar and phosphate groups. To each sugar is attached a nitrogenous base, which can be of four different types. Two of the possible bases—adenine and guanine—are purines, and the other two—thymine and cytosine—are pyrimidines. So far as is known, the sequence of bases along the chain is irregular. The monomer unit, consisting of phosphate, sugar and base, is known as a nucleotide.

The first feature of our structure which is of biological interest is that it consists not of one chain, but of two. These two chains are both coiled around a common fiber axis. It has often been assumed that since there was only one chain in the chemical formula there would only be one in the structural unit. However, the density, taken with the X-ray evidence, suggests very strongly that there are two.

The other biologically important feature is the manner in which the two chains are held together. This is done by hydrogen bonds between the bases. The bases are joined together in pairs, a single base from one chain being hydrogen-bonded to a single base from the other. The important point is that only certain pairs of bases will fit into the structure. One member of a pair must be a purine and the othera pyrimidine in order to bridge between the two chains. If a pair consisted of two purines, for example, there would not be room for it.

We believe that the bases will be present almost entirely in their most probable forms. If this is true, the conditions for forming hydrogen bonds are more restrictive, and the only pairs of bases possible are: adenine with thymine, and guanine with cytosine. Adenine, for example, can occur on either chain; but when it does, its partner on the other chain must always be thymine.

The phosphate-sugar backbone of our model is completely regular, but any sequence of the pairs of bases can fit into the structure. It follows that in a long molecule many different permutations are possible, and it therefore seems likely that the precise sequence of bases is the code which carries the genetical information. If the actual order of the bases on one of the pair of chains were given, one could write down the exact order of the bases on the other one, because of the specific pairing. Thus one chain is, as it were, the complement of the other, and it is this feature which suggests how the deoxyribonucleic acid molecule might duplicate itself.

The table shows, for various organisms, the percentage ofeach of the four types of nitrogenous bases in that organism's DNA.

Base Composition of DNA				
Organism	Percentage of base in organism's DNA			
	adenine (%)	guanine (%)	cytosine (%)	thymine (%)
Maize	26.8	22.8	23.2	27.2
Octopus	33.2	17.6	17.6	31.6
Chicken	28.0	22.0	21.6	28.4
Rat	28.6	21.4	20.5	28.4
Human	29.3	20.7	20.0	30.0
Grasshopper	29.3	20.5	20.7	29.3
Sea urchin	32.8	17.7	17.3	32.1
Wheat	27.3	22.7	22.8	27.1
Yeast	31.3	18.7	17.1	32.9
E. coli	24.7	26.0	25.7	23.6

Adapted from Manju Bansal, "DNA Structure: Revisiting the Watson-Crick Double Helix." ©2003 by Current Science Association,Bangalore.

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CONTINUE

22

The authors use the word "backbone" in lines 3and 39 to indicate that

A) only very long chains of DNA can be taken froman organism with a spinal column.

B) the main structure of a chain in a DNA moleculeis composed of repeating units.

C) a chain in a DNA molecule consists entirely of phosphate groups or of sugars.

D) nitrogenous bases form the main structural unitof DNA.

23

A student claims that nitrogenous bases pair randomly with one another. Which of the followingstatements in the passage contradicts the student's claim?

A) Lines 5-6 ("To each… types")

B) Lines 9-10 ("So far… irregular")

C) Lines 23-25 ("The bases… other")

D) Lines 27-29 ("One member… chains")

24

In the second paragraph (lines 12-19), what do the authors claim to be a feature of biological interest?

A) The chemical formula of DNA

B) The common fiber axis

C) The X-ray evidence

D) DNA consisting of two chains

25

The authors' main purpose of including the information about X-ray evidence and density is to

A) establish that DNA is the molecule that carriesthe genetic information.

B) present an alternate hypothesis about the composition of a nucleotide.

C) provide support for the authors' claim about the number of chains in a molecule of DNA.

D) confirm the relationship between the density of DNA and the known chemical formula of DNA.

26

Based on the passage, the authors' statement "If a pair consisted of two purines, for example, there would not be room for it" (lines 29-30) implies that apair

A) of purines would be larger than the space between a sugar and a phosphate group.

B) of purines would be larger than a pair consistingof a purine and a pyrimidine.

C) of pyrimidines would be larger than a pair of purines.

D) consisting of a purine and a pyrimidine would be larger than a pair of pyrimidines.

27

The authors' use of the words "exact," "specific," and "complement" in lines 47-49 in the final paragraph functions mainly to

A) confirm that the nucleotide sequences are knownfor most molecules of DNA.

B) counter the claim that the sequences of bases along a chain can occur in any order.

C) support the claim that the phosphate-sugar backbone of the authors' model is completely regular.

D) emphasize how one chain of DNA may serve as a template to be copied during DNA replication.

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CONTINUE

28

Based on the table and passage, which choice gives the correct percentages of the purines in yeast DNA?

A) 17.1% and 18.7%

B) 17.1% and 32.9%

C) 18.7% and 31.3%

D) 31.3% and 32.9%

29

Do the data in the table support the authors' proposed pairing of bases in DNA?

A) Yes, because for each given organism, the percentage of adenine is closest to the percentageof thymine, and the percentage of guanine is closest to the percentage of cytosine.

B) Yes, because for each given organism, the percentage of adenine is closest to the percentageof guanine, and the percentage of cytosine is closest to the percentage of thymine.

C) No, because for each given organism, the percentage of adenine is closest to the percentageof thymine, and the percentage of guanine is closest to the percentage of cytosine.

D) No, because for each given organism, the percentage of adenine is closest to the percentageof guanine, and the percentage of cytosine is closest to the percentage of thymine.

30

According to the table, which of the following pairsof base percentages in sea urchin DNA provides evidence in support of the answer to the previous question?

A) 17.3% and 17.7%

B) 17.3% and 32.1%

C) 17.3% and 32.8%

D) 17.7% and 32.8%

31

Based on the table, is the percentage of adenine in each organism's DNA the same or does it vary, andwhich statement made by the authors is most consistent with that data?

A) The same; "Two of… pyrimidines" (lines 6-8)

B) The same; "The important… structure" (lines 25-26)

C) It varies; "Adenine… thymine" (lines 36-38)

D) It varies; "It follows… information" (lines 41-45)

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CONTINUE

Questions 32-41 are based on the following passage.

This passage is adapted from Virginia Woolf, *Three Guineas.* ©1938 by Harcourt, Inc. Here, Woolf considers the situation of women in English society.

Close at hand is a bridge over the River Thames, an admirable vantage ground for us to make a survey. The river flows beneath; barges pass, laden with timber, bursting with corn; there on one side are the domes and spires of the city; on the other, Westminster and the Houses of Parliament. It is a place to stand on by the hour, dreaming. But not now. Now we are pressed for time. Now we are here to consider facts; now we must fix our eyes upon the procession—the procession of the sons of educated men.

There they go, our brothers who have been educated at public schools and universities, mounting those steps, passing in and out of those doors, ascending those pulpits, preaching, teaching, administering justice, practising medicine, transacting business, making money. It is a solemn sight always—a procession, like a caravanserai crossing a desert ..... But now, for the past twenty years or so, it is no longer a sight merely, a photograph, or fresco scrawled upon the walls of time, at which we can look with merely an esthetic appreciation. For there, trapesing along at the tail end of the procession, we go ourselves. And that makes a difference. We who have looked so long at the pageant in books, or from a curtained window watched educated men leaving the house at about nine-thirty to go to an office, returning to the house at about six-thirty from an office, need look passively no longer. We too can leave the house, can mount those steps, pass in and out of those doors, ... make money, administer justice ..... We who now agitate these humble pens may in another century or two speak from a pulpit. Nobody will dare contradict us then; we shall be the mouthpieces of the divine spirit—a solemn thought, is it not? Who can say whether, as time goes on, we may not dress in military uniform, with gold lace on our breasts, swords at our sides, and something like the old family coal-scuttle on our heads, save that that venerable object was never decorated with plumes of white horsehair. You laugh—indeed the shadow of the private house still makes those dresses look a little queer. We have worn private clothes so long..... But we have not come here to laugh, or to talk of fashions—men's and women's. We are here, on the bridge, to ask ourselves certain questions.

And they are very important questions; and we have very little time in which to answer them. The questions that we have to ask and to answer about that procession during this moment of transition are so important that they may well change the lives of all men and women for ever. For we have to ask ourselves, here and now, do we wish to join that procession, or don't we? On what terms shall we join that procession? Above all, where is it leading us, the procession of educated men? The moment is short; it may last five years; ten years, or perhaps only a matter of a few months longer ..... But, you will object, you have no time to think; you have your battles to fight, your rent to pay, your bazaars to organize. That excuse shall not serve you, Madam. As you know from your own experience, and there are facts that prove it, the daughters of educated men have always done their thinking from hand to mouth; not under green lamps at study tables in the cloisters of secluded colleges. They have thought while they stirred the pot, while they rocked the cradle. It was thus that they won us the right to our brand-new sixpence. It falls to us now to go on thinking; how are we to spend that sixpence? Think we must. Let us think in offices; in omnibuses; while we are standing in the crowd watching Coronations and Lord Mayor's Shows; let us think. ..... in the gallery of the House of Commons; in the Law Courts; let us think at baptisms and marriages and funerals. Let us never cease from thinking—what is this "civilization" in which we find ourselves? What are these ceremonies and why should we take part in them? What are these professions and why should we make money out of them? Where in short is it leading us, the procession of the sons of educated men?

32

The main purpose of the passage is to

A) emphasize the value of a tradition.

B) stress the urgency of an issue.

C) highlight the severity of social divisions.

D) question the feasibility of an undertaking.

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CONTINUE

33

The central claim of the passage is that

A) educated women face a decision about how to engage with existing institutions.

B) women can have positions of influence in English society only if they give up some of theirtraditional roles.

C) the male monopoly on power in English societyhas had grave and continuing effects.

D) the entry of educated women into positions of power traditionally held by men will transform those positions.

34

Woolf uses the word "we" throughout the passage mainly to

A) reflect the growing friendliness among a groupof people.

B) advance the need for candor among a group of people.

C) establish a sense of solidarity among a group of people.

D) reinforce the need for respect among a group of people.

35

According to the passage, Woolf chooses the settingof the bridge because it

A) is conducive to a mood of fanciful reflection.

B) provides a good view of the procession of thesons of educated men.

C) is within sight of historic episodes to which she alludes.

D) is symbolic of the legacy of past and present sonsof educated men.

36

Woolf indicates that the procession she describes inthe passage

A) has come to have more practical influence in recent years.

B) has become a celebrated feature of English publiclife.

C) includes all of the richest and most powerfulmen in England.

D) has become less exclusionary in its membershipin recent years.

37

Which choice provides the best evidence for theanswer to the previous question?

A) Lines 12-17 ("There… money")

B) Lines 17-19 ("It… desert")

C) Lines 23-24 ("For… ourselves")

D) Lines 30-34 ("We… pulpit")

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CONTINUE

38

Woolf characterizes the questions in lines 53-57 ("For we… men") as both

A) controversial and threatening.

B) weighty and unanswerable.

C) momentous and pressing.

D) provocative and mysterious.

39

Which choice provides the best evidence for the answer to the previous question?

A) Lines 46-47 ("We… questions")

B) Lines 48-49 ("And… them")

C) Line 57 ("The moment… short")

D) Line 62 ("That… Madam")

40

Which choice most closely captures the meaning of the figurative "sixpence" referredto in lines 70 and 71?

A) Tolerance

B) Knowledge

C) Opportunity

D) Perspective

41

The range of places and occasions listed in lines 72-76 ("Let us… funerals") mainly serves to emphasize how

A) novel the challenge faced by women is.

B) pervasive the need for critical reflection is.

C) complex the political and social issues of theday are.

D) enjoyable the career possibilities for women are.

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CONTINUE

Questions 42-52 are based on the followingpassages.

Passage 1 is adapted from Michael Slezak, "Space Mining: the Next Gold Rush?" ©2013 by New Scientist. Passage 2 isfrom the editors of *New Scientist*, "Taming the Final Frontier." ©2013 by New Scientist.

Passage 1

Follow the money and you will end up in space. That's the message from a first-of-its-kind forum onmining beyond Earth.

Line Convened in Sydney by the Australian Centre for Space Engineering Research, the event brought together mining companies, robotics experts, lunarscientists, and government agencies that are all working to make space mining a reality.

The forum comes hot on the heels of the 2012 unveiling of two private asteroid-mining firms. Planetary Resources of Washington says it will launch its first prospecting telescopes in two years, while Deep Space Industries of Virginia hopes to be harvesting metals from asteroids by 2020. Another commercial venture that sprung up in 2012, Golden Spike of Colorado, will be offering trips tothe moon, including to potential lunar miners.

Within a few decades, these firms may be meeting earthly demands for precious metals, such as platinum and gold, and the rare earth elements vital for personal electronics, such as yttrium and lanthanum. But like the gold rush pioneers who transformed the western United States, the first spaceminers won't just enrich themselves. They also hope to build an off-planet economy free of any bonds with Earth, in which the materials extracted and processed from the moon and asteroids are deliveredfor space-based projects.

In this scenario, water mined from other worlds could become the most desired commodity. "In the desert, what's worth more: a kilogram of goldor a kilogram of water?" asks Kris Zacny of HoneyBee Robotics in New York. "Gold is useless. Water will let you live."

Water ice from the moon's poles could be sent to astronauts on the International Space Station for drinking or as a radiation shield. Splitting water intooxygen and hydrogen makes spacecraft fuel, so ice-rich asteroids could become interplanetary refuelling stations.

Companies are eyeing the iron, silicon, and aluminium in lunar soil and asteroids, which couldbe used in 3D printers to make spare parts or machinery. Others want to turn space dirt into concrete for landing pads, shelters, and roads.

Passage 2

The motivation for deep-space travel is shifting from discovery to economics. The past year has seen a flurry of proposals aimed at bringing celestial richesdown to Earth. No doubt this will make a few billionaires even wealthier, but we all stand to gain: the mineral bounty and spin-off technologies couldenrich us all.

But before the miners start firing up their rockets,we should pause for thought. At first glance, space mining seems to sidestep most environmental concerns: there is (probably!) no life on asteroids, and thus no habitats to trash. But its consequences —both here on Earth and in space—merit carefulconsideration.

Part of this is about principles. Some will argue that space's "magnificent desolation" is not ours to despoil, just as they argue that our own planet's poles should remain pristine. Others will suggest that glutting ourselves on space's riches is not an acceptable alternative to developing more sustainableways of earthly life.

History suggests that those will be hard lines to hold, and it may be difficult to persuade the public that such barren environments are worth preserving. After all, they exist in vast abundance, and even fewer people will experience them than have walkedthrough Antarctica's icy landscapes.

There's also the emerging off-world economy to consider. The resources that are valuable in orbit and beyond may be very different to those we prize on Earth. Questions of their stewardship have barely been broached—and the relevant legal and regulatoryframework is fragmentary, to put it mildly.

Space miners, like their earthly counterparts, are often reluctant to engage with such questions. One speaker at last week's space-mining forum in Sydney, Australia, concluded with a plea that regulation should be avoided. But miners have muchto gain from a broad agreement on the for-profit exploitation of space. Without consensus, claims will be disputed, investments risky, and the gains made insecure. It is in all of our long-term interests to seekone out.

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CONTINUE

42

In lines 9-17, the author of Passage 1 mentionsseveral companies primarily to

A) note the technological advances that make space mining possible.

B) provide evidence of the growing interest in space mining.

C) emphasize the large profits to be made from space mining.

D) highlight the diverse ways to carry out space mining operations.

43

The author of Passage 1 indicates that space miningcould have which positive effect?

A) It could yield materials important to Earth's economy.

B) It could raise the value of some precious metalson Earth.

C) It could create unanticipated technological innovations.

D) It could change scientists' understanding of space resources.

44

Which choice provides the best evidence for the answer to the previous question?

A) Lines 18-22 ("Within… lanthanum")

B) Lines 24-28 ("They… projects")

C) Lines 29-30 ("In this… commodity")

D) Lines 41-44 ("Companies... machinery")

45

As used in line 19, "demands" most nearly means

A) offers.

B) claims.

C) inquiries.

D) desires.

46

What function does the discussion of water inlines 35-40 serve in Passage 1?

A) It continues an extended comparison that beginsin the previous paragraph.

B) It provides an unexpected answer to a question raised in the previous paragraph.

C) It offers hypothetical examples supporting a claim made in the previous paragraph.

D) It examines possible outcomes of a proposal putforth in the previous paragraph.

47

The central claim of Passage 2 is that space mininghas positive potential but

A) it will end up encouraging humanity's reckless treatment of the environment.

B) its effects should be thoughtfully considered before it becomes a reality.

C) such potential may not include replenishing key resources that are disappearing on Earth.

D) experts disagree about the commercial viabilityof the discoveries it could yield.

48

As used in line 68, "hold" most nearly means

A) maintain.

B) grip.

C) restrain.

D) withstand.

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CONTINUE

49

Which statement best describes the relationshipbetween the passages?

A) Passage 2 refutes the central claim advanced in Passage 1.

B) Passage 2 illustrates the phenomenon describedin more general terms in Passage 1.

C) Passage 2 argues against the practicality of the proposals put forth in Passage 1.

D) Passage 2 expresses reservations about developments discussed in Passage 1.

50

The author of Passage 2 would most likely respond tothe discussion of the future of space mining in lines 18-28, Passage 1, by claiming that such a future

A) is inconsistent with the sustainable use of space resources.

B) will be difficult to bring about in the absence of regulations.

C) cannot be attained without technologies that donot yet exist.

D) seems certain to affect Earth's economy in a negative way.

51

Which choice provides the best evidence for theanswer to the previous question?

A) Lines 60-63 ("Some… pristine")

B) Lines 74-76 ("The resources… Earth")

C) Lines 81-83 ("One… avoided")

D) Lines 85-87 ("Without… insecure")

52

Which point about the resources that will be highly valued in space is implicit in Passage 1 and explicit inPassage 2?

A) They may be different resources from those thatare valuable on Earth.

B) They will be valuable only if they can be harvested cheaply.

C) They are likely to be primarily precious metalsand rare earth elements.

D) They may increase in value as those same resources become rare on Earth.

STOP

If you finish before time is called, you may check your work on this section only.

Do not turn to any other section.

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16

CONTINUE

No Test Material On This Page

Writing and Language Test

35 MINUTES, 44 QUESTIONS

Turn to Section 2 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage below is accompanied by a number of questions. For some questions, you will consider how the passage might be revised to improve the expression of ideas. For other questions, you will consider how the passage might be edited to correct errors in sentence structure, usage, or punctuation. A passage or a question may be accompanied by one or more graphics (such as a table or graph) that you will consider as you make revising and editing decisions.

Some questions will direct you to an underlined portion of a passage. Other questions willdirect you to a location in a passage or ask you to think about the passage as a whole.

After reading each passage, choose the answer to each question that most effectively improves the quality of writing in the passage or that makes the passage conform to the conventions of standard written English. Many questions include a "NO CHANGE" option.Choose that option if you think the best choice is to leave the relevant portion of the passage as it is.

Questions 1-11 are based on the following passage.

Whey to Go

Greek yogurt—a strained form of cultured yogurt—has grown enormously in popularity in the United States since it was first introduced in the countryin the late 1980s.

From 2011 to 2012 alone, sales of Greek yogurt in the US increased by 50 percent. The resulting increase in Greek yogurt production has forced those involved in the business to address the detrimental effects that the yogurt-making process may be having on the environment. Fortunately, farmers and others in the

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CONTINUE

Greek yogurt business have found many methods of controlling and eliminating most environmental threats. Given these solutions as well as the many health benefits of the food, the advantages of Greek yogurt 1 outdo the potential drawbacks of its production.

[1] The main environmental problem caused by the production of Greek yogurt is the creation of acid whey as a by-product. [2] Because it requires up to four times more milk to make than conventional yogurt does, Greek yogurt produces larger amounts of acid whey, which is difficult to dispose of. [3] To address the problem of disposal, farmers have found a number of uses for acid whey. [4] They can add it to livestock feed as a protein 2 supplement, and people can make their own Greek-style yogurt at home by straining regular yogurt. [5] If it is improperly introduced into the environment, acid-whey runoff 3 can pollute waterways, depleting the oxygen content of streams and rivers as it decomposes. [6] Yogurt manufacturers, food 4 scientists; and government officials are also working together to develop additional solutions for reusing whey. 5

1

A) NO CHANGE
B) defeat
C) outperform
D) outweigh

2

Which choice provides the most relevant detail?

A) NO CHANGE
B) supplement and convert it into gas to use as fuel in electricity production.
C) supplement, while sweet whey is more desirable as a food additive for humans.
D) supplement, which provides an important element of their diet.

3

A) NO CHANGE
B) can pollute waterway's,
C) could have polluted waterways,
D) has polluted waterway's,

4

A) NO CHANGE
B) scientists: and
C) scientists, and
D) scientists, and,

5

To make this paragraph most logical, sentence 5 should be placed

A) where it is now.
B) after sentence 1.
C) after sentence 2.
D) after sentence 3.

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CONTINUE

6 Though these conservation methods can be costly and time-consuming, they are well worth the effort. Nutritionists consider Greek yogurt to be a healthy food: it is an excellent source of calcium and protein, serves 7 to be a digestive aid, and 8 it contains few calories in its unsweetened low- and non-fat forms. Greek yogurt is slightly lower in sugar and carbohydrates than conventional yogurt is. 9 Also, because it is more concentrated, Greek yogurt contains slightly more protein per serving, thereby helping people stay

6

The writer is considering deleting the underlined sentence. Should the writer do this?

A) Yes, because it does not provide a transition from the previous paragraph.
B) Yes, because it fails to support the main argument of the passage as introduced in the first paragraph.
C) No, because it continues the explanation of how acid whey can be disposed of safely.
D) No, because it sets up the argument in the paragraph for the benefits of Greek yogurt.

7

A) NO CHANGE
B) as
C) like
D) for

8

A) NO CHANGE
B) containing
C) contains
D) will contain

9

A) NO CHANGE
B) In other words,
C) Therefore,
D) For instance,

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CONTINUE

10 satiated for longer periods of time. These health benefits have prompted Greek yogurt's recent surge in popularity. In fact, Greek yogurt can be found in an increasing number of products such as snack food and frozen desserts. Because consumers reap the nutritional benefits of Greek yogurt and support those who make and sell 11 it, therefore farmers and businesses should continue finding safe and effective methods of producing the food.

10

A) NO CHANGE
B) fulfilled
C) complacent
D) sufficient

11

A) NO CHANGE
B) it, farmers
C) it, so farmers
D) it: farmers

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CONTINUE

Questions 12-22 are based on the following passageand supplementary material.

Dark Snow

Most of Greenland's interior is covered by a thick layer of ice and compressed snow known as the Greenland Ice Sheet. The size of the ice sheet fluctuates seasonally: in summer, average daily high temperatures in Greenland can rise to slightly above 50 degrees Fahrenheit, partially melting the ice; in the winter, the sheet thickens as additional snow falls, and average daily low temperatures can drop 12 to as low as 20 degrees.

12

Which choice most accurately and effectively represents the information in the graph?

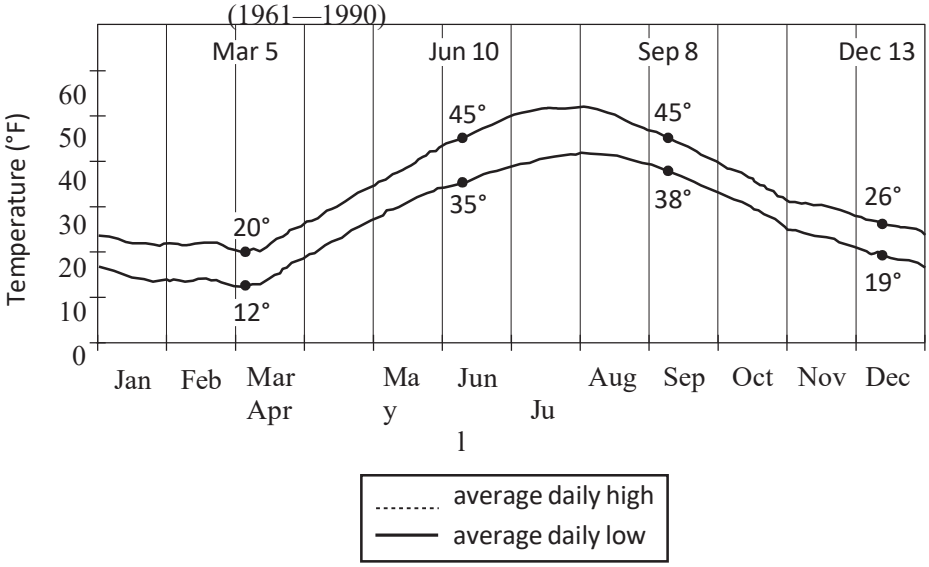
A) NO CHANGE

B) to 12 degrees Fahrenheit.

C) to their lowest point on December 13.

D) to 10 degrees Fahrenheit and stay there for months.

Average Daily High and Low Temperatures Recordedat Nuuk Weather Station, Greenland (1961—1990)



Adapted from WMO. ©2014 by World Meteorological Organization.

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CONTINUE

Typically, the ice sheet begins to show evidence of thawing in late 13 summer. This follows several weeks of higher temperatures. 14 For example, in the summer of 2012, virtually the entire Greenland Ice Sheet underwent thawing at or near its surface by mid-July, the earliest date on record. Most scientists looking for the causes of the Great Melt of 2012 have focused exclusively on rising temperatures. The summer of 2012 was the warmest in 170 years, records show. But Jason 15 Box, an associate professor of geology at Ohio State believes that another factor added to the early 16 thaw; the "dark snow" problem.

13

Which choice most effectively combines the two sentences at the underlined portion?

A) summer, following
B) summer, and this thawing follows
C) summer, and such thawing follows
D) summer and this evidence follows

14

A) NO CHANGE
B) However,
C) As such,
D) Moreover,

15

A) NO CHANGE
B) Box an associate professor of geology at Ohio State,
C) Box, an associate professor of geology at Ohio State,
D) Box, an associate professor of geology, at Ohio State

16

A) NO CHANGE
B) thaw; and it was
C) thaw:
D) thaw: being

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CONTINUE

According to Box, a leading Greenland expert, tundra fires in 2012 from as far away as North America produced great amounts of soot, some **17** of it drifted over Greenland in giant plumes of smoke and then **18** fell as particles onto the ice sheet. Scientists have long known that soot particles facilitate melting by darkening snow and ice, limiting **19** it's ability to reflect the Sun's rays. As Box explains, "Soot is an extremely powerful light absorber. It settles over the ice and captures the Sun's heat." The result is a self-reinforcing cycle. As the ice melts, the land and water under the ice become exposed, and since land and water are darker than snow, the surface absorbs even more heat, which **20** is related to the rising temperatures.

17

A) NO CHANGE
B) soot
C) of which
D) DELETE the underlined portion.

18

A) NO CHANGE
B) falls
C) will fall
D) had fallen

19

A) NO CHANGE
B) its
C) there
D) their

20

Which choice best completes the description of a self-reinforcing cycle?

A) NO CHANGE
B) raises the surface temperature.
C) begins to cool at a certain point.
D) leads to additional melting.

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CONTINUE

[1] Box's research is important because the fires of 2012 may not be a one-time phenomenon. [2] According to scientists, rising Arctic temperatures are making northern latitudes greener and thus more fire prone. [3] The pattern Box observed in 2012 may repeat **21** itself again, with harmful effects on the Arctic ecosystem. [4] Box is currently organizing an expeditionto gather this crucial information. [5] The next step for Box and his team is to travel to Greenland to perform direct sampling of the ice in order to determine just howmuch the soot is contributing to the melting of the ice sheet. [6] Members of the public will be able to track histeam's progress—and even help fund the expedition—through a website Box has created. **22**

21

A) NO CHANGE
B) itself,
C) itself, with damage and
D) itself possibly,

22

To make this paragraph most logical, sentence 4 should be placed

A) where it is now.
B) after sentence 1.
C) after sentence 2.
D) after sentence 5.

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CONTINUE

Questions 23-33 are based on the following passage.

Coworking: A Creative Solution

When I left my office job as a website developer at a small company for a position that allowed me to work full-time from home, I thought I had it made: I gleefully traded in my suits and dress shoes for sweatpants and slippers, my frantic early-morning bagged lunch packingfor a leisurely midday trip to my refrigerator. The noveltyof this comfortable work-from-home life, however, 23 soon got worn off quickly. Within a month, I found myself feeling isolated despite having frequent email and instant messaging contact with my colleagues. Having become frustrated trying to solve difficult problems, 24 no colleagues were nearby to share ideas. It was during this time that I read an article 25 into coworkingspaces.

23

A) NO CHANGE
B) was promptly worn
C) promptly wore
D) wore

24

A) NO CHANGE
B) colleagues were important for sharing ideas.
C) ideas couldn't be shared with colleagues.
D) I missed having colleagues nearby to consult.

25

A) NO CHANGE
B) about
C) upon
D) for

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CONTINUE

The article, published by *Forbes* magazine, explained that coworking spaces are designated locations that, for a fee, individuals can use to conduct their work. The spacesare usually stocked with standard office 26 equipment, such as photocopiers, printers, and fax machines. 27 In these locations, however, the spaces often include small meeting areas and larger rooms for hosting presentations.

28 The cost of launching a new coworking business inthe United States is estimated to be approximately $58,000.

26

A) NO CHANGE
B) equipment, such as:
C) equipment such as:
D) equipment, such as,

27

A) NO CHANGE
B) In addition to equipment,
C) For these reasons,
D) Likewise,

28

The writer is considering deleting the underlined sentence. Should the sentence be kept or deleted?

A) Kept, because it provides a detail that supports the main topic of the paragraph.
B) Kept, because it sets up the main topic of the paragraph that follows.
C) Deleted, because it blurs the paragraph's main focus with a loosely related detail.
D) Deleted, because it repeats information that has been provided in an earlier paragraph.

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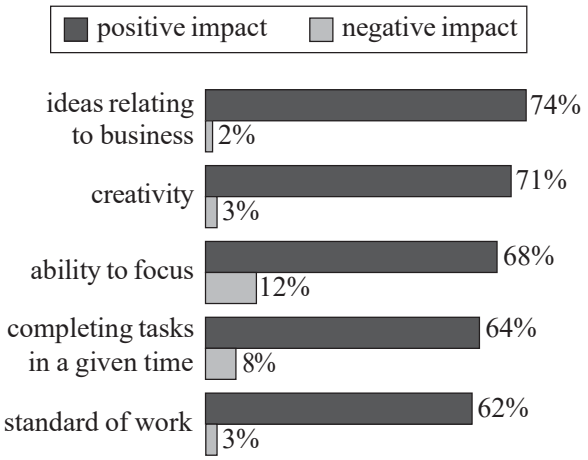
CONTINUE

What most caught my interest, though, was a quotation from someone who described coworking spaces as "melting pots of creativity." The article refers toa 2012 survey in which 29 64 percent of respondents noted that coworking spaces prevented them from completing tasks in a given time. The article goes on to suggest that the most valuable resources provided by coworking spaces are actually the people 30 whom use them.

29

At this point, the writer wants to add specific information that supports the main topic of the paragraph.

Perceived Effect of Coworking on Business Skills



Adapted from "The 3rd Global Coworking Survey." ©2013 by Deskmag.

Which choice most effectively completes the sentence with relevant and accurate information based on the graph above?

A) NO CHANGE

B) 71 percent of respondents indicated that using a coworking space increased their creativity.

C) respondents credited coworking spaces with giving them 74 percent of their ideas relating to business.

D) respondents revealed that their ability to focuson their work improved by 12 percent in a coworking space.

30

A) NO CHANGE

B) whom uses

C) who uses

D) who use

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CONTINUE

[1] Thus, even though I already had all the equipment I needed in my home office, I decided to try using a coworking space in my city. [2] Because I was specifically interested in coworking's reported benefits related to creativity, I chose a facility that offered a bright,open work area where I wouldn't be isolated.

[3] Throughout the morning, more people appeared.

[4] Periods of quiet, during which everyone worked independently, were broken up occasionally with lively conversation. 31

I liked the experience so much that I now go to the coworking space a few times a week. Over time, I've gotten to know several of my coworking 32 colleagues: another website developer, a graphic designer, a freelancewriter, and several mobile app coders. Even those of us who work in disparate fields are able to 33 share advice and help each other brainstorm. In fact, it's the diversity of their talents and experiences that makes my coworkingcolleagues so valuable.

31

The writer wants to add the following sentence to the paragraph.

> After filling out a simple registration form and taking a quick tour of the facility, I took a seat at a table and got right to work on my laptop.

The best placement for the sentence is immediately

A) before sentence 1.
B) after sentence 1.
C) after sentence 2.
D) after sentence 3.

32

A) NO CHANGE
B) colleagues;
C) colleagues,
D) colleagues

33

A) NO CHANGE
B) give some wisdom
C) proclaim our opinions
D) opine

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CONTINUE

Questions 34-44 are based on the following passage.

The Consolations of Philosophy

Long viewed by many as the stereotypical useless major, philosophy is now being seen by many students and prospective employers as in fact a very useful and practical major, offering students a host of transferable skills with relevance to the modern workplace. **34** In broad terms, philosophy is the study of meaning and the values underlying thought and behavior. But **35** more pragmatically, the discipline encourages students to analyze complex material, question conventional beliefs, and express thoughts in a concise manner.

Because philosophy **36** teaching students not whatto think but how to think, the age-old discipline offers consistently useful tools for academic and professional achievement. **37** A 1994 survey concluded that only 18 percent of American colleges required at least one philosophy course. **38** Therefore, between 1992 and1996, more than 400 independent philosophy departments were eliminated from institutions.

34

A) NO CHANGE
B) For example,
C) In contrast,
D) Nevertheless,

35

A) NO CHANGE
B) speaking in a more pragmatic way,
C) speaking in a way more pragmatically,
D) in a more pragmatic-speaking way,

36

A) NO CHANGE
B) teaches
C) to teach
D) and teaching

37

Which choice most effectively sets up the information that follows?

A) Consequently, philosophy students have been receiving an increasing number of job offers.
B) Therefore, because of the evidence, colleges increased their offerings in philosophy.
C) Notwithstanding the attractiveness of this course of study, students have resisted majoring in philosophy.
D) However, despite its many utilitarian benefits, colleges have not always supported the study of philosophy.

38

A) NO CHANGE
B) Thus,
C) Moreover,
D) However,

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CONTINUE

More recently, colleges have recognized the practicality and increasing popularity of studying philosophy and have markedly increased the number of philosophy programs offered. By 2008 there were 817 programs, up from 765 a decade before. In addition, the number of four-year graduates in philosophy has grown 46 percent in a decade. Also, studies have found that those students who major in philosophy often do better than students from other majors in both verbal reasoning and analytical **39** writing. These results can be measured by standardized test scores. On the Graduate Record Examination (GRE), for example, students intending to study philosophy in graduate school **40** has scored higher than students in all but four other majors.

These days, many **41** student's majoring in philosophy have no intention of becoming philosophers; instead they plan to apply those skills to other disciplines. Law and business specifically benefit from the complicated theoretical issues raised in the study of philosophy, but philosophy can be just as useful in engineering or any field requiring complex analytic skills.

42 That these skills are transferable across professions

39

Which choice most effectively combines the sentences at the underlined portion?

A) writing as
B) writing, and these results can be
C) writing, which can also be
D) writing when the results are

40

A) NO CHANGE
B) have scored
C) scores
D) scoring

41

A) NO CHANGE
B) students majoring
C) students major
D) student's majors

42

At this point, the writer is considering adding the following sentence.

> The ancient Greek philosopher Plato, for example, wrote many of his works in the form of dialogues.

Should the writer make this addition here?

A) Yes, because it reinforces the passage's main point about the employability of philosophy majors.
B) Yes, because it acknowledges a common counterargument to the passage's central claim.
C) No, because it blurs the paragraph's focus by introducing a new idea that goes unexplained.
D) No, because it undermines the passage's claim about the employability of philosophy majors.

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CONTINUE

43 which makes them especially beneficial to twenty-first-century students. Because today's students can expect to hold multiple jobs—some of which may not even exist yet—during 44 our lifetime, studying philosophy allows them to be flexible and adaptable. High demand, advanced exam scores, and varied professional skills all argue for maintaining and enhancing philosophy courses and majors within academic institutions.

43

A) NO CHANGE
B) that
C) and
D) DELETE the underlined portion.

44

A) NO CHANGE
B) one's
C) his or her
D) their

STOP

If you finish before time is called, you may check your work on this section only. Do not turn to any other section.

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CONTINUE

CollegeBoard

Practice Test #2

IMPORTANT REMINDERS

1. A no. 2 pencil is required for the test. Do not use a mechanical pencil or pen.

2. Sharing any questions with anyone is a violation of Test Security and Fairness policies and may result in your scores being canceled.

This cover is representative of what you'll see on test day.

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Test begins on the next page.

Reading Test

65 MINUTES, 52 QUESTIONS

Turn to Section 1 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage or pair of passages below is followed by a number of questions. After readingeach passage or pair, choose the best answer to each question based on what is stated or implied in the passage or passages and in any accompanying graphics (such as a table orgraph).

Questions 1-10 are based on the followingpassage.

This passage is adapted from Saki, "The Schartz-Metterklume Method." Originally published in 1911.

Lady Carlotta stepped out on to the platform of the small wayside station and took a turn or two up and down its uninteresting length, to kill time till the train should be pleased to proceed on its way. Then, in the roadway beyond, she saw a horse struggling with a more than ample load, and a carter of the sort that seems to bear a sullen hatred against the animal that helps him to earn a living. Lady Carlotta promptly betook her to the roadway, and put rather a different complexion on the struggle. Certain of her acquaintances were wont to give her plentiful admonition as to the undesirability of interfering on behalf of a distressed animal, such interference being "none of her business." Only once had she put the doctrine of non-interference into practice, when one of its most eloquent exponents had been besieged for nearly three hours in a small and extremely uncomfortable may-tree by an angry boar-pig, while Lady Carlotta, on the other side of the fence, had proceeded with the water-colour sketch she was engaged on, and refused to interfere between the boar and his prisoner. It is to be feared that she lost the friendship of the ultimately rescued lady. On this occasion she merely lost the train, which gave way to the first sign of impatience it had shown throughout the journey, and steamed off without her. She bore the desertion with philosophical indifference; her friends and relations were thoroughly well used to the fact of her luggage arriving without her. She wired a vague non-committal message to her destination to say that she was coming on "by another train." Before she had time to think what her next move might be she was confronted by an imposingly attired lady, who seemed to be taking a prolonged mental inventory of her clothes and looks.

"You must be Miss Hope, the governess I've come to meet," said the apparition, in a tone that admitted of very little argument.

"Very well, if I must I must," said Lady Carlotta to herself with dangerous meekness.

"I am Mrs. Quabarl," continued the lady; "and where, pray, is your luggage?"

"It's gone astray," said the alleged governess, falling in with the excellent rule of life that the absent are always to blame; the luggage had, in point of fact, behaved with perfect correctitude. "I've just telegraphed about it," she added, with a nearer approach to truth.

"How provoking," said Mrs. Quabarl; "these railway companies are so careless. However, my maid can lend you things for the night," and she led the way to her car.

During the drive to the Quabarl mansion Lady Carlotta was impressively introduced to the nature of the charge that had been thrust upon her; she learned that Claude and Wilfrid were delicate, sensitive young people, that Irene had the artistic temperament highly developed, and that Viola was

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CONTINUE

something or other else of a mould equally commonplace among children of that class and type in the twentieth century.

"I wish them not only to be TAUGHT," said Mrs. Quabarl, "but INTERESTED in what they learn. In their history lessons, for instance, you must try to make them feel that they are being introduced to the life-stories of men and women who really lived, not merely committing a mass of names and dates to memory. French, of course, I shall expect you to talk at meal-times several days in the week."

"I shall talk French four days of the week and Russian in the remaining three."

"Russian? My dear Miss Hope, no one in the house speaks or understands Russian."

"That will not embarrass me in the least," said Lady Carlotta coldly.

Mrs. Quabarl, to use a colloquial expression, was knocked off her perch. She was one of those imperfectly self-assured individuals who are magnificent and autocratic as long as they are not seriously opposed. The least show of unexpected resistance goes a long way towards rendering them cowed and apologetic. When the new governess failed to express wondering admiration of the large newly-purchased and expensive car, and lightly alluded to the superior advantages of one or two makes which had just been put on the market, the discomfiture of her patroness became almost abject. Her feelings were those which might have animated a general of ancient warfaring days, on beholding his heaviest battle-elephant ignominiously driven off the field by slingers and javelin throwers.

1

Which choice best summarizes the passage?

A) A woman weighs the positive and negative aspects of accepting a new job.

B) A woman does not correct a stranger who mistakes her for someone else.

C) A woman impersonates someone else to seek revenge on an acquaintance.

D) A woman takes an immediate dislike to her new employer.

2

In line 2, "turn" most nearly means

A) slight movement.

B) change in rotation.

C) short walk.

D) course correction.

3

The passage most clearly implies that other people regarded Lady Carlotta as

A) outspoken.

B) tactful.

C) ambitious.

D) unfriendly.

4

Which choice provides the best evidence for the answer to the previous question?

A) Lines 10-14 ("Certain… business")

B) Lines 22-23 ("It is… lady")

C) Lines 23-26 ("On this… her")

D) Lines 30-32 ("She… train")

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CONTINUE

5

The description of how Lady Carlotta "put the doctrine of non-interference into practice" (lines 14-15) mainly serves to

A) foreshadow her capacity for deception.

B) illustrate the subtle cruelty in her nature.

C) provide a humorous insight into her character.

D) explain a surprising change in her behavior.

6

In line 55, "charge" most nearly means

A) responsibility.

B) attack.

C) fee.

D) expense.

7

The narrator indicates that Claude, Wilfrid, Irene, and Viola are

A) similar to many of their peers.

B) unusually creative and intelligent.

C) hostile to the idea of a governess.

D) more educated than others of their age.

8

The narrator implies that Mrs. Quabarl favors a form of education that emphasizes

A) traditional values.

B) active engagement.

C) artistic experimentation.

D) factual retention.

9

As presented in the passage, Mrs. Quabarl is best described as

A) superficially kind but actually selfish.

B) outwardly imposing but easily defied.

C) socially successful but irrationally bitter.

D) naturally generous but frequently imprudent.

10

Which choice provides the best evidence for the answer to the previous question?

A) Lines 49-50 ("How… careless")

B) Lines 62-68 ("I wish… memory")

C) Lines 70-73 ("I shall… Russian")

D) Lines 77-82 ("She was… apologetic")

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CONTINUE

Questions 11-20 are based on the followingpassage and supplementary material.

This passage is adapted from Taras Grescoe, *Straphanger*: *Saving Our Cities and Ourselves from the Automobile*. ©2012by Taras Grescoe.

Though there are 600 million cars on the planet, and counting, there are also seven billion people, which means that for the vast majority of us getting around involves taking buses, ferryboats, commuter trains, streetcars, and subways. In other words, traveling to work, school, or the market means being a straphanger: somebody who, by choice or necessity, relies on public transport, rather than a privately owned automobile.

Half the population of New York, Toronto, and London do not own cars. Public transport is how most of the people of Asia and Africa, the world's most populous continents, travel. Every day, subway systems carry 155 million passengers, thirty-four times the number carried by all the world's airplanes, and the global public transport market is now valued at $428 billion annually. A century and a half after the invention of the internal combustion engine, private car ownership is still an anomaly.

And yet public transportation, in many minds, is the opposite of glamour—a squalid last resort for those with one too many impaired driving charges, too poor to afford insurance, or too decrepit to get behind the wheel of a car. In much of North America, they are right: taking transit is a depressing experience. Anybody who has waited far too long on a street corner for the privilege of boarding a lurching, overcrowded bus, or wrestled luggage onto subways and shuttles to get to a big city airport, knows that transit on this continent tends to be underfunded, ill-maintained, and ill-planned. Given the opportunity, who wouldn't drive? Hopping in a car almost always gets you to your destination more quickly.

It doesn't have to be like this. Done right, public transport can be faster, more comfortable, and cheaper than the private automobile. In Shanghai, German-made magnetic levitation trains skim over elevated tracks at 266 miles an hour, whisking people to the airport at a third of the speed of sound. In provincial French towns, electric-powered streetcars run silently on rubber tires, sliding through narrow streets along a single guide rail set into cobblestones. From Spain to Sweden, Wi-Fi equipped high-speed trains seamlessly connect with highly ramified metro networks, allowing commuters to work on laptops as they prepare for same-day meetings in once distant capital cities. In Latin America, China, and India, working people board fast-loading buses that move like subway trains along dedicated busways, leaving the sedans and SUVs of the rich mired in dawn-to-dusk traffic jams. And some cities have transformed their streets into cycle-path freeways, making giant strides in public health and safety and the sheer livability of their neighborhoods—in the process turning the workaday bicycle into a viable form of mass transit.

If you credit the demographers, this transit trend has legs. The "Millenials," who reached adulthood around the turn of the century and now outnumber baby boomers, tend to favor cities over suburbs, and are far more willing than their parents to ride buses and subways. Part of the reason is their ease with iPads, MP3 players, Kindles, and smartphones: you can get some serious texting done when you're not driving, and earbuds offer effective insulation from all but the most extreme commuting annoyances. Even though there are more teenagers in the country than ever, only ten million have a driver's license (versus twelve million a generation ago). Baby boomers may have been raised in Leave It to Beaver suburbs, but as they retire, a significant contingent is favoring older cities and compact towns where they have the option of walking and riding bikes. Seniors, too, are more likely to use transit, and by 2025, there will be 64 million Americans over the age of sixty-five. Already, dwellings in older neighborhoods in Washington, D.C., Atlanta, and Denver, especially those near light-rail or subway stations, are commanding enormous price premiums over suburban homes. The experience of European and Asian cities shows that if you make buses, subways, and trains convenient, comfortable, fast, and safe, a surprisingly large percentage of citizens will opt to ride rather than drive.

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CONTINUE

Figure 1

Primary Occupation of PublicTransportation Passengers in US Cities

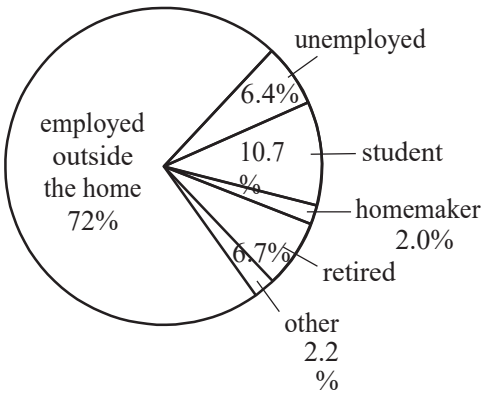

Figure 2

Purpose of Public Transportation Trips in US Cities

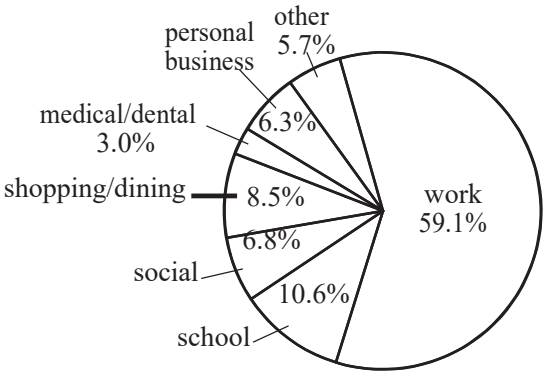

Figure 1 and figure 2 are adapted from the American Public Transportation Association, "A Profile of Public Transportation Passenger Demographics and Travel Characteristics Reported inOn-Board Surveys." ©2007 by American Public Transportation Association.

11

What function does the third paragraph (lines 20-34) serve in the passage as a whole?

A) It acknowledges that a practice favored by the author of the passage has some limitations.

B) It illustrates with detail the arguments made inthe first two paragraphs of the passage.

C) It gives an overview of a problem that has not been sufficiently addressed by the experts mentioned in the passage.

D) It advocates for abandoning a practice for which the passage as a whole provides mostly favorable data.

12

Which choice does the author explicitly cite as an advantage of automobile travel in North America?

A) Environmental impact

B) Convenience

C) Speed

D) Cost

13

Which choice provides the best evidence for the answer to the previous question?

A) Lines 5-9 ("In . . . automobile")

B) Lines 20-24 ("And . . . car")

C) Lines 24-26 ("In . . . experience")

D) Lines 32-34 ("Hopping . . . quickly")

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CONTINUE

14

The central idea of the fourth paragraph (lines 35-57)is that

A) European countries excel at public transportation.

B) some public transportation systems are superiorto travel by private automobile.

C) Americans should mimic foreign public transportation systems when possible.

D) much international public transportation is engineered for passengers to work while on board.

15

Which choice provides the best evidence for the answer to the previous question?

A) Line 35 (“It . . . this”)

B) Lines 35-37 (“Done . . . automobile”)

C) Lines 37-40 (“In . . . sound”)

D) Lines 44-48 (“From . . . cities”)

16

As used in line 58, “credit” most nearly means

A) endow.

B) attribute.

C) believe.

D) honor.

17

As used in line 61, “favor” most nearly means

A) indulge.

B) prefer.

C) resemble.

D) serve.

18

Which choice best supports the conclusion that public transportation is compatible with the use of personal electronic devices?

A) Lines 59-63 (“The . . . subways”)

B) Lines 63-67 (“Part . . . annoyances”)

C) Lines 68-70 (“Even . . . ago”)

D) Lines 77-81 (“Already . . . homes”)

19

Which choice is supported by the data in the first figure?

A) The number of students using public transportation is greater than the number of retirees using public transportation.

B) The number of employed people using public transportation and the number of unemployed people using public transportation is roughly the same.

C) People employed outside the home are less likelyto use public transportation than are homemakers.

D) Unemployed people use public transportationless often than do people employed outside thehome.

20

Taken together, the two figures suggest that most people who use public transportation

A) are employed outside the home and take public transportation to work.

B) are employed outside the home but take public transportation primarily in order to run errands.

C) use public transportation during the week butuse their private cars on weekends.

D) use public transportation only until they are ableto afford to buy a car.

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Questions 21-30 are based on the followingpassage.

This passage is adapted from Thor Hanson, *Feathers*. ©2011 by Thor Hanson. Scientists have long debated howthe ancestors of birds evolved the ability to fly. The ground-up theory assumes they were fleet-footed grounddwellers that captured prey by leaping and flapping their upper limbs. The tree-down theory assumes they were treeclimbers that leapt and glided among branches.

At field sites around the world, Ken Dial saw a pattern in how young pheasants, quail, tinamous, and other ground birds ran along behind their parents. "They jumped up like popcorn," he said, describing how they would flap their half-formed wings and take short hops into the air. So when a group of graduate students challenged him to come up with new data on the age-old ground-up-tree-down debate, he designed a project to see what clues might lie in how baby game birds learned to fly.

Ken settled on the Chukar Partridge as a model species, but he might not have made his discovery without a key piece of advice from the local rancher in Montana who was supplying him with birds. When the cowboy stopped by to see how things were going, Ken showed him his nice, tidy laboratory setup and explained how the birds' first hops and flights would be measured. The rancher was incredulous. "He took one look and said, in pretty colorful language, 'What are those birds doingon the ground? They hate to be on the ground! Give them something to climb on!' " At first it seemed unnatural—ground birds don't like the ground? But as he thought about it Ken realized that all the species he'd watched in the wild preferred to rest onledges, low branches, or other elevated perches wherethey were safe from predators. They really only used the ground for feeding and traveling. So he brought in some hay bales for the Chukars to perch on andthen left his son in charge of feeding and data collection while he went away on a short work trip.

Barely a teenager at the time, young Terry Dial was visibly upset when his father got back. "I asked him how it went," Ken recalled, "and he said, 'Terrible! The birds are cheating!' " Instead of flying up to their perches, the baby Chukars were using their legs. Time and again Terry had watched themrun right up the side of a hay bale, flapping all the while. Ken dashed out to see for himself, and that was the "aha" moment. "The birds were using their wings and legs cooperatively," he told me, and that single observation opened up a world of possibilities.

Working together with Terry (who has since gone on to study animal locomotion), Ken came up with a series of ingenious experiments, filming the birds as they raced up textured ramps tilted at increasing angles. As the incline increased, the partridges beganto flap, but they angled their wings differently from birds in flight. They aimed their flapping down and backward, using the force not for lift but to keep their feet firmly pressed against the ramp. "It's likethe spoiler on the back of a race car," he explained, which is a very apt analogy. In Formula One racing, spoilers are the big aerodynamic fins that push the cars downward as they speed along, increasing traction and handling. The birds were doing the verysame thing with their wings to help them scramble up otherwise impossible slopes.

Ken called the technique WAIR, for wing-assisted incline running, and went on to document it in a wide range of species. It not only allowed young birds to climb vertical surfaces within the first few weeks of life but also gave adults an energy-efficient alternative to flying. In the Chukar experiments, adults regularly used WAIR to ascend ramps steeperthan 90 degrees, essentially running up the wall and onto the ceiling.

In an evolutionary context, WAIR takes on surprising explanatory powers. With one fell swoop,the Dials came up with a viable origin for the flapping flight stroke of birds (something gliding animals don't do and thus a shortcoming of the tree-down theory) and an aerodynamic function for half-formed wings (one of the main drawbacks to the ground-up hypothesis).

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CONTINUE

21

Which choice best reflects the overall sequence ofevents in the passage?

A) An experiment is proposed but proves unworkable; a less ambitious experiment is attempted, and it yields data that give rise to a new set of questions.

B) A new discovery leads to reconsideration of a theory; a classic study is adapted, and the resultsare summarized.

C) An anomaly is observed and simulated experimentally; the results are compared with previous findings, and a novel hypothesis is proposed.

D) An unexpected finding arises during the early phase of a study; the study is modified in response to this finding, and the results are interpreted and evaluated.

22

As used in line 7, "challenged" most nearly means

A) dared.

B) required.

C) disputed with.

D) competed with.

23

Which statement best captures Ken Dial's central assumption in setting up his research?

A) The acquisition of flight in young birds sheds light on the acquisition of flight in their evolutionary ancestors.

B) The tendency of certain young birds to jump erratically is a somewhat recent evolved behavior.

C) Young birds in a controlled research setting are less likely than birds in the wild to require perches when at rest.

D) Ground-dwelling and tree-climbing predecessorsto birds evolved in parallel.

24

Which choice provides the best evidence for the answer to the previous question?

A) Lines 1-4 ("At field . . . parents")

B) Lines 6-11 ("So when . . . fly")

C) Lines 16-19 ("When . . . measured")

D) Lines 23-24 ("At first . . . the ground")

25

In the second paragraph (lines 12-32), the incident involving the local rancher mainly serves to

A) reveal Ken Dial's motivation for undertaking his project.

B) underscore certain differences between laboratory and field research.

C) show how an unanticipated piece of information influenced Ken Dial's research.

D) introduce a key contributor to the tree-down theory.

26

After Ken Dial had his "'aha' moment" (line 41), he

A) tried to train the birds to fly to their perches.

B) studied videos to determine why the birds no longer hopped.

C) observed how the birds dealt with gradually steeper inclines.

D) consulted with other researchers who had studied Chukar Partridges.

27

The passage identifies which of the following as a factor that facilitated the baby Chukars' traction on steep ramps?

A) The speed with which they climbed

B) The position of their flapping wings

C) The alternation of wing and foot movement

D) Their continual hopping motions

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CONTINUE

28

As used in line 61, "document" most nearly means

A) portray.

B) record.

C) publish.

D) process.

29

What can reasonably be inferred about gliding animals from the passage?

A) Their young tend to hop along beside their parents instead of flying beside them.

B) Their method of locomotion is similar to that of ground birds.

C) They use the ground for feeding more often than for perching.

D) They do not use a flapping stroke to aid in climbing slopes.

30

Which choice provides the best evidence for the answer to the previous question?

A) Lines 4-6 ("They jumped . . . air")

B) Lines 28-29 ("They really . . . traveling")

C) Lines 57-59 ("The birds . . . slopes")

D) Lines 72-74 ("something . . . theory")

Questions 31-41 are based on the following passages.

Passage 1 is adapted from Talleyrand et al., *Report on Public Instruction.* Originally published in 1791. Passage 2 is adapted from Mary Wollstonecraft, *A Vindication of the Rights of Woman*. Originally published in 1792. Talleyrand was a French diplomat; the *Report* was a plan for national education. Wollstonecraft, a British novelist and political writer, wrote *Vindication* in response to Talleyrand.

Passage 1

That half the human race is excluded by the other half from any participation in government; that they are native by birth but foreign by law in the very land where they were born; and that they are property-owners yet have no direct influence or representation: are all political phenomena apparently impossible to explain on abstract principle. But on another level of ideas, the question changes and may be easily resolved. The purpose of all these institutions must be the happiness of the greatest number. Everything that leads us farther from this purpose is in error; everything that brings us closer is truth. If the exclusion from public employments decreed against women leads to a greater sum of mutual happiness for the two sexes, then this becomes a law that all Societies have been compelled to acknowledge and sanction.

Any other ambition would be a reversal of our primary destinies; and it will never be in women's interest to change the assignment they have received.

It seems to us incontestable that our common happiness, above all that of women, requires that they never aspire to the exercise of political rights and functions. Here we must seek their interests in the wishes of nature. Is it not apparent, that their delicate constitutions, their peaceful inclinations, and the many duties of motherhood, set them apart from strenuous habits and onerous duties, and summon them to gentle occupations and the cares of the home? And is it not evident that the great conserving principle of Societies, which makes the division of powers a source of harmony, has been expressed and revealed by nature itself, when it divided the functions of the two sexes in so obviously distinct a manner? This is sufficient; we need not invoke principles that are inapplicable to the question. Let us not make rivals of life's companions. You must, you truly must allow the persistence of a union that no interest, no rivalry, can possibly undo. Understand that the good of all demands this of you.

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CONTINUE

Passage 2

Contending for the rights of woman, my main argument is built on this simple principle, that if shebe not prepared by education to become the companion of man, she will stop the progress of knowledge and virtue; for truth must be common toall, or it will be inefficacious with respect to its influence on general practice. And how can woman be expected to co-operate unless she know why she ought to be virtuous? unless freedom strengthen her reason till she comprehend her duty, and see in what manner it is connected with her real good? If children are to be educated to understand the true principle of patriotism, their mother must be a patriot; and the love of mankind, from which an orderly train of virtues spring, can only be produced by considering the moral and civil interest of mankind; but the education and situation of woman, at present, shuts her out from such investigations. . . .

Consider, sir, dispassionately, these observations—for a glimpse of this truth seemed to open before you when you observed, "that to see one half of the human race excluded by the other from all participation of government, was a political phenomenon that, according to abstract principles, it was impossible to explain." If so, on what does your constitution rest? If the abstract rights of man will bear discussion and explanation, those of woman, bya parity of reasoning, will not shrink from the same test: though a different opinion prevails in this country, built on the very arguments which you useto justify the oppression of woman—prescription.

Consider—I address you as a legislator—whether, when men contend for their freedom, and to be allowed to judge for themselves respecting their own happiness, it be not inconsistent and unjust to subjugate women, even though you firmly believe that you are acting in the manner best calculated to promote their happiness? Who made man the exclusive judge, if woman partake with him the gift of reason?

In this style, argue tyrants of every denomination, from the weak king to the weak father of a family; they are all eager to crush reason; yet always assert that they usurp its throne only to be useful. Do you not act a similar part, when you forceall women, by denying them civil and political rights, to remain immured in their families groping inthe dark?

31

As used in line 21, "common" most nearly means

A) average.

B) shared.

C) coarse.

D) similar.

32

It can be inferred that the authors of Passage 1 believe that running a household and raising children

A) are rewarding for men as well as for women.

B) yield less value for society than do the roles performed by men.

C) entail very few activities that are difficult or unpleasant.

D) require skills similar to those needed to run a country or a business.

33

Which choice provides the best evidence for the answer to the previous question?

A) Lines 4-6 ("they are . . . representation")

B) Lines 13-17 ("If the . . . sanction")

C) Lines 25-30 ("Is it . . . home")

D) Lines 30-35 ("And . . . manner")

34

According to the author of Passage 2, in order for society to progress, women must

A) enjoy personal happiness and financial security.

B) follow all currently prescribed social rules.

C) replace men as figures of power and authority.

D) receive an education comparable to that of men.

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CONTINUE

35

As used in line 50, "reason" most nearly means

A) motive.

B) sanity.

C) intellect.

D) explanation.

36

In Passage 2, the author claims that freedoms grantedby society's leaders have

A) privileged one gender over the other.

B) resulted in a general reduction in individual virtue.

C) caused arguments about the nature of happiness.

D) ensured equality for all people.

37

Which choice provides the best evidence for the answer to the previous question?

A) Lines 41-45 ("Contending . . . virtue")

B) Lines 45-47 ("truth . . . practice")

C) Lines 65-66 ("If so . . . rest")

D) Lines 72-75 ("Consider . . . happiness")

38

In lines 61-65, the author of Passage 2 refers to a statement made in Passage 1 in order to

A) call into question the qualifications of the authors of Passage 1 regarding gender issues.

B) dispute the assertion made about women in the first sentence of Passage 1.

C) develop her argument by highlighting what she sees as flawed reasoning in Passage 1.

D) validate the concluding declarations made by the authors of Passage 1 about gender roles.

39

Which best describes the overall relationshipbetween Passage 1 and Passage 2?

A) Passage 2 strongly challenges the point of view in Passage 1.

B) Passage 2 draws alternative conclusions from the evidence presented in Passage 1.

C) Passage 2 elaborates on the proposal presentedin Passage 1.

D) Passage 2 restates in different terms the argument presented in Passage 1.

40

The authors of both passages would most likely agree with which of the following statements about women in the eighteenth century?

A) Their natural preferences were the same as thoseof men.

B) They needed a good education to be successful in society.

C) They were just as happy in life as men were.

D) They generally enjoyed fewer rights than men did.

41

How would the authors of Passage 1 most likely respond to the points made in the final paragraph of Passage 2?

A) Women are not naturally suited for the exerciseof civil and political rights.

B) Men and women possess similar degrees of reasoning ability.

C) Women do not need to remain confined to their traditional family duties.

D) The principles of natural law should not be invoked when considering gender roles.

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Questions 42-52 are based on the followingpassage and supplementary material.

This passage is adapted from Richard J. Sharpe and Lisa Heyden, "Honey Bee Colony Collapse Disorder is Possibly Caused by a Dietary Pyrethrum Deficiency." ©2009 by Elsevier Ltd. Colony collapse disorder is characterized by thedisappearance of adult worker bees from hives.

Honey bees are hosts to the pathogenic large ectoparasitic mite *Varroa destructor* (Varroa mites). These mites feed on bee hemolymph (blood) and can kill bees directly or by increasing their susceptibility to secondary infection with fungi, bacteria or viruses. Little is known about the natural defenses that keep the mite infections under control.

Pyrethrums are a group of flowering plants which include *Chrysanthemum coccineum*, *Chrysanthemum cinerariifolium*, *Chrysanthemum marschalli*, and related species. These plants produce potent insecticides with anti-mite activity. The naturallyoccurring insecticides are known as pyrethrums. A synonym for the naturally occurring pyrethrums is pyrethrin and synthetic analogues of pyrethrums are known as pyrethroids. In fact, the human mite infestation known as scabies (*Sarcoptes scabiei*) is treated with a topical pyrethrum cream.

We suspect that the bees of commercial bee colonies which are fed mono-crops are nutritionally deficient. In particular, we postulate that the problemis a diet deficient in anti-mite toxins: pyrethrums, and possibly other nutrients which are inherent in such plants. Without, at least, intermittent feeding on the pyrethrum producing plants, bee colonies are susceptible to mite infestations which can become fatal either directly or due to a secondary infection of immunocompromised or nutritionally deficient bees. This secondary infection can be viral, bacterial or fungal and may be due to one or more pathogens. In addition, immunocompromised or nutritionally deficient bees may be further weakened when commercially produced insecticides are introducedinto their hives by bee keepers in an effort to fight mite infestation. We further postulate that the proper dosage necessary to prevent mite infestation may be better left to the bees, who may seek out or avoid pyrethrum containing plants depending on the amount necessary to defend against mites and the amount already consumed by the bees, which in higher doses could be potentially toxic to them.

This hypothesis can best be tested by a trial wherein a small number of commercial honey bee colonies are offered a number of pyrethrum producing plants, as well as a typical bee food source such as clover, while controls are offered only the clover. Mites could then be introduced to each hive with note made as to the choice of the bees, and the effects of the mite parasites on the experimental colonies versus control colonies.

It might be beneficial to test wild-type honey bee colonies in this manner as well, in case there could be some genetic difference between them that affects the bees' preferences for pyrethrum producing flowers.

Pathogen Occurence in Honey Bee Colonies With and Without Colony Collapse Disorder

	Percent of colonies affected by pathogen	
Pathogen	Colonies with colony collapse disorder (%)	Colonies without colony collapse disorder (%)
Viruses		
IAPV	83	5
KBV	100	76
Fungi		
Nosema apis	90	48
Nosema ceranae	100	81
All four pathogens	77	0

Adapted from Diana L. Cox-Foster et al., "A Metagenomic Survey of Microbes in Honey Bee Colony Collapse Disorder." ©2007 by AmericanAssociation for the Advancement of Science.

The table above shows, for colonies with colony collapse disorder and for colonies without colony collapse disorder, the percent of colonies having honey bees infected by each of four pathogens andby all four pathogens together.

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CONTINUE

42

How do the words "can," "may," and "could" in the third paragraph (lines 19-41) help establish the tone of the paragraph?

A) They create an optimistic tone that makes clearthe authors are hopeful about the effects of their research on colony collapse disorder.

B) They create a dubious tone that makes clear the authors do not have confidence in the usefulnessof the research described.

C) They create a tentative tone that makes clear the authors suspect but do not know that their hypothesis is correct.

D) They create a critical tone that makes clear the authors are skeptical of claims that pyrethrumsare inherent in mono-crops.

43

In line 42, the authors state that a certain hypothesis"can best be tested by a trial." Based on the passage, which of the following is a hypothesis the authors suggest be tested in a trial?

A) Honeybees that are exposed to both pyrethrumsand mites are likely to develop a secondary infection by a virus, a bacterium, or a fungus.

B) Beekeepers who feed their honeybee colonies a diet of a single crop need to increase the use of insecticides to prevent mite infestations.

C) A honeybee diet that includes pyrethrums resultsin honeybee colonies that are more resistant to mite infestations.

D) Humans are more susceptible to varroa mites asa result of consuming nutritionally deficient food crops.

44

Which choice provides the best evidence for the answer to the previous question?

A) Lines 3-5 ("These mites . . . viruses")

B) Lines 16-18 ("In fact . . . cream")

C) Lines 19-21 ("We suspect . . . deficient")

D) Lines 24-28 ("Without . . . bees")

45

The passage most strongly suggests that beekeepers' attempts to fight mite infestations with commercially produced insecticides have what unintentional effect?

A) They increase certain mite populations.

B) They kill some beneficial forms of bacteria.

C) They destroy bees' primary food source.

D) They further harm the health of some bees.

46

Which choice provides the best evidence for the answer to the previous question?

A) Lines 1-2 ("Honey bees . . . mites")

B) Lines 6-7 ("Little . . . control")

C) Lines 31-35 ("In addition . . . infestation")

D) Lines 47-50 ("Mites . . . control colonies")

47

As used in line 35, "postulate" most nearly means to

A) make an unfounded assumption.

B) put forth an idea or claim.

C) question a belief or theory.

D) conclude based on firm evidence.

48

The main purpose of the fourth paragraph (lines 42-50) is to

A) summarize the results of an experiment that confirmed the authors' hypothesis about the roleof clover in the diets of wild-type honeybees.

B) propose an experiment to investigate how different diets affect commercial honeybee colonies' susceptibility to mite infestations.

C) provide a comparative nutritional analysis of the honey produced by the experimental colonies and by the control colonies.

D) predict the most likely outcome of an unfinished experiment summarized in the third paragraph (lines 19-41).

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CONTINUE

49

An unstated assumption made by the authors about clover is that the plants

A) do not produce pyrethrums.

B) are members of the *Chrysanthemum* genus.

C) are usually located near wild-type honeybee colonies.

D) will not be a good food source for honeybees in the control colonies.

50

Based on data in the table, in what percent of colonies with colony collapse disorder were the honeybees infected by all four pathogens?

A) 0 percent

B) 77 percent

C) 83 percent

D) 100 percent

51

Based on data in the table, which of the four pathogens infected the highest percentage of honeybee colonies without colony collapse disorder?

A) IAPV

B) KBV

C) *Nosema apis*

D) *Nosema ceranae*

52

Do the data in the table provide support for the authors' claim that infection with varroa mites increases a honeybee's susceptibility to secondary infections?

A) Yes, because the data provide evidence that infection with a pathogen caused the colonies to undergo colony collapse disorder.

B) Yes, because for each pathogen, the percent of colonies infected is greater for colonies with colony collapse disorder than for colonies without colony collapse disorder.

C) No, because the data do not provide evidence about bacteria as a cause of colony collapse disorder.

D) No, because the data do not indicate whether the honeybees had been infected with mites.

STOP

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Writing and Language Test

35 MINUTES, 44 QUESTIONS

Turn to Section 2 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage below is accompanied by a number of questions. For some questions, you will consider how the passage might be revised to improve the expression of ideas. For other questions, you will consider how the passage might be edited to correct errors in sentence structure, usage, or punctuation. A passage or a question may be accompanied by one or more graphics (such as a table or graph) that you will consider as you make revising and editing decisions.

Some questions will direct you to an underlined portion of a passage. Other questions willdirect you to a location in a passage or ask you to think about the passage as a whole.

After reading each passage, choose the answer to each question that most effectively improves the quality of writing in the passage or that makes the passage conform to the conventions of standard written English. Many questions include a "NO CHANGE" option.Choose that option if you think the best choice is to leave the relevant portion of the passage as it is.

Questions 1-11 are based on the following passage.

Shed Some Light on the Workplace

Studies have shown that employees are happier, 1 healthier, and more productive when they work in an environment 2 in which temperatures are carefully controlled. New buildings may be designed with these studies in mind, but many older buildings were not, resulting in spaces that often depend primarily on artificial lighting. While employers may balk at the expense of reconfiguring such buildings to increase the amount of natural light, the investment has been shownto be well worth it in the long run—for both employees and employers.

1

A) NO CHANGE
B) healthy, and more
C) healthier, and they are
D) healthier, being more

2

Which choice provides the most appropriate introduction to the passage?

A) NO CHANGE
B) that affords them adequate amounts of natural light.
C) that is thoroughly sealed to prevent energy loss.
D) in which they feel comfortable asking managers for special accommodations.

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CONTINUE

For one thing, lack of exposure to natural light has a significant impact on employees' health. A study conducted in 2013 by Northwestern University in Chicago showed that inadequate natural light could result in eye strain, headaches, and fatigue, as well as interference with the body's circadian rhythms. 3 Circadian rhythms, which are controlled by the 4 bodies biological clocks, influence body temperature, hormone release, cycles of sleep and wakefulness, and other bodily functions. Disruptions of circadian rhythms have been linked to sleep disorders, diabetes, depression, and bipolar disorder. Like any other health problems, these ailments can increase employee absenteeism, which, in turn, 5 is costly for employers. Employees who feel less than 100 percent and are sleep deprived are also less prone to work at their maximal productivity. One company in California 6 gained a huge boost in its employees' morale when it moved from an artificially lit distribution facility to one with natural illumination.

3

At this point, the writer is considering adding the following sentence.

> Workers in offices with windows sleep an average of 46 minutes more per night thanworkers in offices without windows.

Should the writer make this addition here?

A) Yes, because it supplies quantitative data that will be examined in the rest of the paragraph.
B) Yes, because it explains the nature of the bodily functions referred to in the next sentence.
C) No, because it interrupts the discussion of circadian rhythms.
D) No, because it does not take into account whether workers were exposed to sunlight outside the office.

4

A) NO CHANGE
B) bodies' biological clocks',
C) body's biological clocks,
D) body's biological clock's,

5

A) NO CHANGE
B) are
C) is being
D) have been

6

Which choice best supports the statement made inthe previous sentence?

A) NO CHANGE
B) saw a 5 percent increase in productivity
C) saved a great deal on its operational costs
D) invested large amounts of time and capital

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CONTINUE

7 Artificial light sources are also costly aside from lowering worker productivity. They typically constitute anywhere from 25 to 50 percent of a building's energy use. When a plant in Seattle, Washington, was redesigned for more natural light, the company was able to enjoy annual electricity cost reductions of $500,000 8 each year.

7

In context, which choice best combines the underlined sentences?

A) Aside from lowering worker productivity, artificial light sources are also costly, typically constituting anywhere from 25 to 50 percent of a building's energy use.

B) The cost of artificial light sources, aside from lowering worker productivity, typically constitutes anywhere from 25 to 50 percent of a building's energy use.

C) Typically constituting 25 to 50 percent of a building's energy use, artificial light sourceslower worker productivity and are costly.

D) Artificial lights, which lower worker productivityand are costly, typically constitute anywhere from 25 to 50 percent of a building's energy use.

8

A) NO CHANGE

B) every year.

C) per year.

D) DELETE the underlined portion and end thesentence with a period.

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CONTINUE

Among the possibilities to reconfigure a building's lighting is the installation of full-pane windows to allow the greatest degree of sunlight to reach office interiors. **9** Thus, businesses can install light tubes, **10** these are pipes placed in workplace roofs to capture and funnel sunlight down into a building's interior. Glass walls and dividers can also be used to replace solid walls as a means **11** through distributing natural light more freely. Considering the enormous costs of artificial lighting, both in terms of money and productivity, investment in such improvements should be a natural choice for businesses.

9

A) NO CHANGE
B) Nevertheless,
C) Alternatively,
D) Finally,

10

A) NO CHANGE
B) they are
C) which are
D) those being

11

A) NO CHANGE
B) of
C) from
D) DELETE the underlined portion.

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CONTINUE

Questions 12-22 are based on the following passage.

Transforming the American West Through Food and Hospitality

Just as travelers taking road trips today may need to take a break for food at a rest area along the highway, settlers traversing the American West by train in the mid-1800s often found **12** themselves in need of refreshment. However, food available on rail lines was generally of terrible quality. **13** Despite having worked for railroad companies, Fred Harvey, an English-born **14** entrepreneur. He decided to open his own restaurant business to serve rail customers. Beginning in the 1870s, he opened dozens of restaurants in rail stations and dining cars. These Harvey Houses, which constituted the first restaurant chain in the United States, **15** was unique for its high standards of service and quality. The menu was modeled after those of fine restaurants, so the food was leagues beyond the **16** sinister fare travelers were accustomed to receiving in transit.

12

A) NO CHANGE
B) himself or herself
C) their selves
D) oneself

13

Which choice provides the most logical introduction to the sentence?

A) NO CHANGE
B) He had lived in New York and New Orleans, so
C) To capitalize on the demand for good food,
D) DELETE the underlined portion.

14

A) NO CHANGE
B) entrepreneur:
C) entrepreneur; he
D) entrepreneur,

15

A) NO CHANGE
B) were unique for their
C) was unique for their
D) were unique for its

16

Which choice best maintains the tone established in the passage?

A) NO CHANGE
B) surly
C) abysmal
D) icky

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CONTINUE

His restaurants were immediately successful, but Harvey was not content to follow conventional business practices. 17 Although women did not traditionally work in restaurants in the nineteenth century, Harvey decided to try employing women as waitstaff. In 1883, he placed an advertisement seeking educated, well-mannered, articulate young women between the ages of 18 and 30. 18 Response to the advertisement was overwhelming, even tremendous, and Harvey soon replaced the male servers at his restaurants with women. Those who were hired as "Harvey Girls" joined an elite group of workers, who were expected to complete a 30-day training program and follow a strict code of rules for conduct and curfews. In the workplace, the women donned identical black-and-white uniforms and carried out their duties with precision. Not only were such regulations meant to ensure the efficiency of the business and the safety of the workers, 19 but also helped to raise people's generally low opinion of the restaurant industry.

17

The writer is considering deleting the previous sentence. Should the writer make this change?

A) Yes, because it introduces information that is irrelevant at this point in the passage.
B) Yes, because it does not logically follow from theprevious paragraph.
C) No, because it provides a logical introduction to the paragraph.
D) No, because it provides a specific example in support of arguments made elsewhere in the passage.

18

A) NO CHANGE
B) Response to the advertisement was overwhelming,
C) Overwhelming, even tremendous, was the response to the advertisement,
D) There was an overwhelming, even tremendous, response to the advertisement,

19

A) NO CHANGE
B) but also helping
C) also helping
D) but they also helped

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CONTINUE

In return for the servers' work, the position paid quite well for the time: $17.50 a month, plus tips, meals, room and board, laundry service, and travel expenses. 20

For as long as Harvey Houses served rail travelers through the mid-twentieth century, working there was a steady and lucrative position for women. Living independently and demonstrating an intense work 21 ethic; the Harvey Girls became known as a transformative force in the American 22 West. Advancing the roles of women in the restaurant industry and the American workforce as a whole, the Harvey Girls raised the standards for restaurants and blazed a trail in the fast-changing landscape of the western territories.

20

Which choice most logically follows the previoussentence?

A) The growth of Harvey's business coincided withthe expansion of the Santa Fe Railway, which served large sections of the American West.

B) Harvey would end up opening dozens of restaurants and dining cars, plus 15 hotels, over his lucrative career.

C) These benefits enabled the Harvey Girls to save money and build new and exciting lives for themselves in the so-called Wild West.

D) The compensation was considered excellent at the time, though it may not seem like much money by today's standards.

21

A) NO CHANGE

B) ethic:

C) ethic, and

D) ethic,

22

The writer is considering revising the underlined portion of the sentence to read:

West, inspiring books, documentaries, and even a musical.

Should the writer add this information here?

A) Yes, because it provides examples of the Harvey Girls' influence.

B) Yes, because it serves as a transitional point in the paragraph.

C) No, because it should be placed earlier in the passage.

D) No, because it contradicts the main claim of the passage.

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CONTINUE

Questions 23-33 are based on the following passageand supplementary material.

How Do You Like Those Apples?

Marketed as SmartFresh, the chemical 1-MCP (1-methylcyclopropene) has been used by fruit growers since 2002 in the United States and elsewhere to preserve the crispness and lengthen the storage life of apples and other fruit, which often must travel long distances before being eaten by consumers. 23 1-MCP lengthens storage life by three to four times when applied to apples. This extended life allows producers to sell their apples in the off-season, months after the apples have been harvested. And at a cost of about one cent per pound of apples, 1-MCP is a highly cost-effective treatment. However, 1-MCP is not a panacea for fruit producers or sellers: there are problems and limitations associated with its use.

23

Which choice most effectively combines theunderlined sentences?

A) When applied to apples, 1-MCP lengthens storage life by three to four times, allowing producers to sell their apples in the off-season, months after the apples have been harvested.

B) Producers are allowed to sell their apples months after they have been harvested—in the off-season—because 1-MCP, when applied to apples, lengthens their storage life by three to four times.

C) 1-MCP lengthens storage life, when applied to apples, by three to four times, allowing producers to sell their apples months after the apples have been harvested in the off-season.

D) Months after apples have been harvested, producers are allowed to sell their apples, in the off-season, because 1-MCP lengthens storage life when applied to apples by three to four times.

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CONTINUE

[1] 1-MCP works by limiting a fruit's production of ethylene, **24** it is a chemical that causes fruit to ripen and eventually rot. [2] While 1-MCP keeps apples **25** tight and crisp for months, it also limits **26** their scent production. [3] This may not be much of a problem with certain kinds of apples that are not naturally very fragrant, such as Granny Smith, but for apples that are prized for their fruity fragrance, such as McIntosh, this can be a problem with consumers, **27** that will reject apples lacking the expected aroma. [4] But some fruits do not respond as well to 1-MCP as others **28** did, and some even respond adversely. [5] Furthermore, some fruits, particularly those that naturally produce a large

24

A) NO CHANGE
B) being
C) that is
D) DELETE the underlined portion.

25

A) NO CHANGE
B) firm
C) stiff
D) taut

26

A) NO CHANGE
B) there
C) its
D) it's

27

A) NO CHANGE
B) they
C) which
D) who

28

A) NO CHANGE
B) do,
C) have,
D) will,

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CONTINUE

amount of ethylene, do not respond as well to 1-MCP treatment. [6] Take Bartlett **29** pears, for instance, unless they are treated with exactly the right amount of 1-MCP at exactly the right time, they will remain hard and green until they rot, and consumers who experience this will be unlikely to purchase them again. **30**

29

A) NO CHANGE
B) pears, for instance:
C) pears for instance,
D) pears. For instance,

30

To make this paragraph most logical, sentence 4 should be placed

A) where it is now.
B) after sentence 1.
C) after sentence 2.
D) after sentence 5.

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CONTINUE

Finally, researchers have found that 1-MCP actually increases susceptibility to some pathologies in certain apple varieties. For example, Empire apples are prone to a condition that causes the flesh of the apple to turn brown. Traditionally, apple producers have dealt with this problem by leaving the apples in the open air for three weeks before storing them in a controlled atmosphere with tightly regulated temperature, humidity, and carbon dioxide levels. As the graph shows, the flesh of untreated Empire apples that are first stored in the open air undergoes **31** roughly five percent less browning than the flesh of untreated Empire apples that are immediately put into storage in a controlled environment. However, when Empire apples are treated with 1-MCP, **32** their flesh turns brown when the apples are first stored in theopen air, though not under other conditions. Although

31

Which choice offers an accurate interpretation ofthe data in the graph?

A) NO CHANGE

B) slightly more browning than

C) twice as much browning as

D) substantially less browning than

32

Which choice offers an accurate interpretation ofthe data in the graph?

A) NO CHANGE

B) roughly half of their flesh turns brown, regardless of whether the apples are first storedin the open air.

C) their flesh browns when they are put directly into a controlled atmosphere but not when theyare first stored in the open air.

D) their flesh turns brown when they are first storedin the open air, though not as quickly as the apple flesh in an untreated group does.

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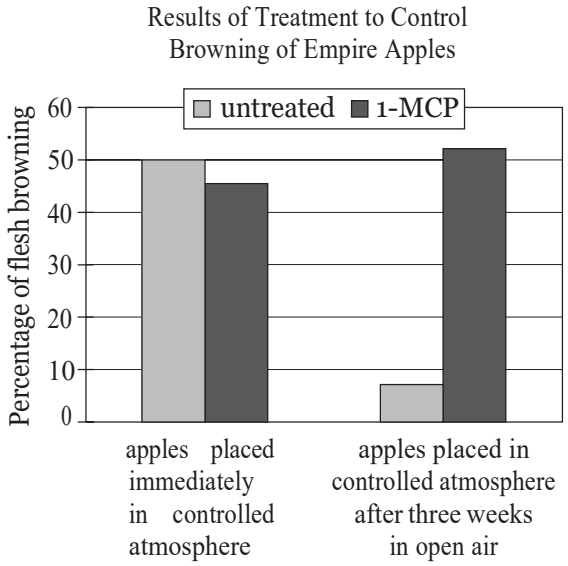
researchers continue to search for the right combination of factors that will keep fruits fresh and attractive, 33 the problem may be that consumers are overly concerned with superficial qualities rather than the actual freshness of the fruit.



Adapted from Hannah J. James, Jacqueline F. Nock, and Chris B. Watkins, "The Failure of Postharvest Treatments to Control Firm Flesh Browning in Empire Apples." ©2010 by The New York State Horticultural Society.

33

The writer wants a conclusion that conveys how the shortcomings of 1-MCP presented in the passage affect the actions of people in the fruit industry. Which choice best accomplishes this goal?

A) NO CHANGE

B) many of the improvements to fruit quality they have discovered so far have required trade-offs in other properties of the fruit.

C) for now many fruit sellers must weigh the relative values of aroma, color, and freshness when deciding whether to use 1-MCP.

D) it must be acknowledged that 1-MCP, despite some inadequacies, has enabled the fruit industry to ship and store fruit in ways that were impossible before.

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CONTINUE

Questions 34-44 are based on the following passage.

More than One Way to Dress a Cat

From Michelangelo's *David* to Vincent van Gogh's series of self-portraits to Grant Wood's iconic image of a farming couple in *American* **34** *Gothic*. These works by human artists have favored representations of members of their own species to those of other species. Indeed, when we think about animals depicted in well-known works of art, the image of dogs playing poker—popularized in a series of paintings by American artist C. M. **35** Coolidge, may be the first and only one that comes to mind. Yet some of the earliest known works of art, including paintings and drawings tens of thousands of years old found on cave walls in Spain and France, **36** portrays animals. Nor has artistic homage to our fellow creatures entirely died out in the millennia since, **37** despite the many years that have passed between then and now.

34

A) NO CHANGE
B) *Gothic*. Works
C) *Gothic*; these works
D) *Gothic*, works

35

A) NO CHANGE
B) Coolidge—
C) Coolidge;
D) Coolidge

36

A) NO CHANGE
B) portraying
C) portray
D) has portrayed

37

The writer wants to link the first paragraph with the ideas that follow. Which choice best accomplishes this goal?

A) NO CHANGE
B) with special attention being paid to domestic animals such as cats.
C) even though most paintings in museums are of people, not animals.
D) as the example of one museum in Russia shows.

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CONTINUE

[1] The State Hermitage Museum in St. Petersburg, one of Russia's greatest art museums, has long had a productive partnership with a much loved animal: the cat. [2] For centuries, cats have guarded this famous museum, ridding it of mice, rats, and other rodents that could damage the art, not to mention 38 scared off visitors. [3] Peter the Great introduced the first cat to theHermitage in the early eighteenth century. [4] Later Catherine the Great declared the cats to be official guardians of the galleries. [5] Continuing the tradition, Peter's daughter Elizaveta introduced the best and strongest cats in Russia to the Hermitage. [6] Today, themuseum holds a yearly festival honoring these faithful workers. 39

38

A) NO CHANGE
B) scaring
C) scare
D) have scared

39

To make this paragraph most logical, sentence 5 should be placed

A) where it is now.
B) after sentence 1.
C) after sentence 3.
D) after sentence 6.

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CONTINUE

These cats are so cherished by the museum that officials recently 40 decreed original paintings to be made of six of them. In each, a cat is depicted upright in a humanlike pose and clothed in imperial-era Russian attire. The person chosen for this 41 task, digital artist, Eldar Zakirov painted the cats in the style traditionally used by portrait artists, in so doing 42 presenting the cats as noble individuals worthy of respect. One portrait, *The Hermitage Court Chamber Herald Cat*, includes an

40

A) NO CHANGE
B) commissioned
C) forced
D) licensed

41

A) NO CHANGE
B) task, digital artist, Eldar Zakirov,
C) task digital artist Eldar Zakirov,
D) task, digital artist Eldar Zakirov,

42

Which choice most effectively sets up the examples that follow?

A) NO CHANGE
B) managing to capture unique characteristics of each cat.
C) commenting on the absurdity of dressing up cats in royal robes.
D) indicating that the cats were very talented mouse catchers.

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CONTINUE

aristocratic tilt of feline ears as well as a stately sweep of tail emerging from the stiff scarlet and gold of royal courtdress. The wise, thoughtful green eyes of the subject of *The Hermitage Court Outrunner Cat* mimic those of a trusted royal advisor. 43 Some may find it peculiar to observe cats portrayed in formal court poses, but these felines, by 44 mastering the art of killing mice and rats, are benefactors of the museum as important as any human.

43

At this point, the writer is considering adding the following sentence.

> The museum occupies six historic buildings, including the Winter Palace, a former residenceof Russian emperors.

Should the writer make this addition here?

A) Yes, because it shows the link between Peter the Great and the cat paintings.

B) Yes, because it helps explain why Russian art celebrates animals.

C) No, because it fails to indicate why the Winter Palace became an art museum.

D) No, because it provides background information that is irrelevant to the paragraph.

44

A) NO CHANGE

B) acting as the lead predator in the museum's ecosystem,

C) hunting down and killing all the mice and rats one by one,

D) protecting the museum's priceless artworks from destructive rodents,

STOP

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Practice Test #3

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K-5MSA04

Test begins on the next page.

Reading Test

65 MINUTES, 52 QUESTIONS

Turn to Section 1 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage or pair of passages below is followed by a number of questions. After readingeach passage or pair, choose the best answer to each question based on what is stated or implied in the passage or passages and in any accompanying graphics (such as a table orgraph).

Questions 1-10 are based on the followingpassage.

This passage is adapted from William Maxwell, *The FoldedLeaf.* ©1959 by William Maxwell. Originally published in 1945.

The Alcazar Restaurant was on Sheridan Road near Devon Avenue. It was long and narrow, with tables for two along the walls and tables for four down the middle. The decoration was *art moderne*, except for the series of murals depicting the four seasons, and the sick ferns in the front window. Lymie sat down at the second table from the cash register, and ordered his dinner. The history book, which he propped against the catsup and the glass sugar bowl, had been used by others before him. Blank pages front and back were filled in with maps, drawings, dates, comic cartoons, and organs of the body; also with names and messages no longer clear and never absolutely legible. On nearly every other page there was some marginal notation, either in ink or in very hard pencil. And unless someone had upset a glass of water, the marks on page 177 were from tears.

While Lymie read about the Peace of Paris, signed on the thirtieth of May, 1814, between France and the Allied powers, his right hand managed again and again to bring food up to his mouth. Sometimes he chewed, sometimes he swallowed whole the food that he had no idea he was eating. The Congress of Vienna met, with some allowance for delays, early in November of the same year, and all the powers engaged in the war on either side sent plenipotentiaries. It was by far the most splendid and important assembly ever convoked to discuss and determine the affairs of Europe. The Emperor of Russia, the King of Prussia, the Kings of Bavaria, Denmark, and Wurttemberg, all were present in person at the court of the Emperor Francis I in the Austrian capital. When Lymie put down his fork and began to count them off, one by one, on the fingers of his left hand, the waitress, whose name was Irma, thought he was through eating and tried to take his plate away. He stopped her. Prince Metternich (his right thumb) presided over the Congress, and Prince Talleyrand (the index finger) represented France.

A party of four, two men and two women, came into the restaurant, all talking at once, and took possession of the center table nearest Lymie. The women had shingled hair and short tight skirts which exposed the underside of their knees when they sat down. One of the women had the face of a young boy but disguised by one trick or another (rouge, lipstick, powder, wet bangs plastered against the high forehead, and a pair of long pendent earrings) to look like a woman of thirty-five, which as a matter of fact she was. The men were older. They laughed more than there seemed any occasion for, while they were deciding between soup and shrimp cocktail, and their laughter was too loud. But it was the women's voices, the terrible not quite sober pitch of the women's voices which caused Lymie to skim over two whole pages without knowing what was on them. Fortunately he realized this and went back. Otherwise he might never have known about the

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CONTINUE

secret treaty concluded between England, France,and Austria, when the pretensions of Prussia andRussia, acting in concert, seemed to threaten a renewal of the attack. The results of the Congress were stated clearly at the bottom of page 67 and atthe top of page 68, but before Lymie got halfway through them, a coat that he recognized as his father's was hung on the hook next to his chair. Lymie closed the book and said, "I didn't think you were coming."

Time is probably no more unkind to sporting characters than it is to other people, but physical decay unsustained by respectability is somehow more noticeable. Mr. Peters' hair was turning gray and his scalp showed through on top. He had lost weight also; he no longer filled out his clothes the way he used to. His color was poor, and the flower had disappeared from his buttonhole. In its place was an American Legion button.

Apparently he himself was not aware that there had been any change. He straightened his tie self-consciously and when Irma handed him a menu, he gestured with it so that the two women at the next table would notice the diamond ring on the fourth finger of his right hand. Both of these things, and also the fact that his hands showed signs of the manicurist, one can blame on the young man who had his picture taken with a derby hat on the back of his head, and also sitting with a girl in the curve of the moon. The young man had never for one second deserted Mr. Peters. He was always there, tugging at Mr. Peters' elbow, making him do things that were not becoming in a man of forty-five.

1

Over the course of the passage, the primary focus shifts from

A) Lymie's inner thoughts to observations made by the other characters.

B) an exchange between strangers to a satisfying personal relationship.

C) the physical setting of the scene to the different characters' personality traits.

D) Lymie's experience reading a book to descriptions of people in the restaurant.

2

The main purpose of the first paragraph is to

A) introduce the passage's main character by showing his nightly habits.

B) indicate the date the passage takes place by presenting period details.

C) convey the passage's setting by describing a place and an object.

D) foreshadow an event that is described in detail later in the passage.

3

It can reasonably be inferred that Irma, the waitress, thinks Lymie is "through eating" (line 37) because

A) he has begun reading his book.

B) his plate is empty.

C) he is no longer holding his fork.

D) he has asked her to clear the table.

4

Lymie's primary impression of the "party of four"(line 42) is that they

A) are noisy and distracting.

B) are a refreshing change from the other customers.

C) resemble characters from his history book.

D) represent glamour and youth.

5

Which choice provides the best evidence for the answer to the previous question?

A) Lines 45-47 ("The women . . . down")

B) Lines 47-52 ("One . . . was")

C) Lines 55-59 ("But . . . them")

D) Line 69 ("Lymie . . . book")

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CONTINUE

6

The narrator indicates that Lymie finally closes the history book because

A) his father has joined him at the table.
B) the people at the other table are too disruptive.
C) he has finished the chapter about the Congress.
D) he is preparing to leave the restaurant.

7

The primary impression created by the narrator's description of Mr. Peters in lines 74-79 is that he is

A) healthy and fit.
B) angry and menacing.
C) nervous and hesitant.
D) aging and shriveled.

8

The main idea of the last paragraph is that Mr. Peters

A) neglects to spend any time with his family members.
B) behaves as if he is a younger version of himself.
C) is very conscious of symbols of wealth and power.
D) is preoccupied with the knowledge that he is growing old.

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CONTINUE

9

Which choice best supports the conclusion that Mr. Peters wants to attract attention?

A) Lines 80-81 ("Apparently . . . change")
B) Lines 81-85 ("He straightened . . . hand")
C) Lines 90-91 ("The young . . . Mr. Peters")
D) Lines 91-93 ("He was . . . forty-five")

10

As used in line 93, "becoming" most nearly means

A) emerging.
B) fitting.
C) developing.
D) happening.

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CONTINUE

Questions 11-21 are based on the following passages.

Passage 1 is adapted from Catharine Beecher, *Essay on Slavery and Abolitionism*. Originally published in 1837. Passage 2 is adapted from Angelina E. Grimké, *Letters to Catharine Beecher*. Originally published in 1838. Grimké encouraged Southern women to oppose slavery publicly. Passage 1 is Beecher's response to Grimké's views.
Passage 2 is Grimké's response to Beecher.

Passage 1

Heaven has appointed to one sex the superior, and to the other the subordinate station, and this without any reference to the character or conduct of either. It is therefore as much for the dignity as it is for the interest of females, in all respects to conform to the duties of this relation ..... But while woman holds a subordinate relation in society to the other sex, it is not because it was designed that her duties or her influence should be any the less important, or all-pervading. But it was designed that the mode of gaining influence and of exercising power should be altogether different and peculiar. . . .

A man may act on society by the collision of intellect, in public debate; he may urge his measures by a sense of shame, by fear and by personal interest; he may coerce by the combination of public sentiment; he may drive by physical force, and he does not outstep the boundaries of his sphere. But all the power, and all the conquests that are lawful to woman, are those only which appeal to the kindly, generous, peaceful and benevolent principles.

Woman is to win every thing by peace and love; by making herself so much respected, esteemed and loved, that to yield to her opinions and to gratify her wishes, will be the free-will offering of the heart. But this is to be all accomplished in the domestic and social circle. There let every woman become so cultivated and refined in intellect, that her taste and judgment will be respected; so benevolent in feeling and action; that her motives will be reverenced;—so unassuming and unambitious, that collision and competition will be banished;—so "gentle and easy to be entreated," as that every heart will repose in her presence; then, the fathers, the husbands, and the sons, will find an influence thrown around them, to which they will yield not only willingly but proudly. . . .

A woman may seek the aid of co-operation and combination among her own sex, to assist her in her appropriate offices of piety, charity, maternal and domestic duty; but whatever, in any measure, throws a woman into the attitude of a combatant, either for herself or others—whatever binds her in a party conflict—whatever obliges her in any way to exert coercive influences, throws her out of her appropriate sphere. If these general principles are correct, they are entirely opposed to the plan of arraying females in any Abolition movement.

Passage 2

The investigation of the rights of the slave has led me to a better understanding of my own. I have found the Anti-Slavery cause to be the high school of morals in our land—the school in which *human rights* are more fully investigated, and better understood and taught, than in any other. Here a great fundamental principle is uplifted and illuminated, and from this central light, rays innumerable stream all around.

Human beings have *rights*, because they are *moral* beings: the rights of *all* men grow out of their moral nature; and as all men have the same moral nature, they have essentially the same rights. These rights may be wrested from the slave, but they cannot be alienated: his title to himself is as perfect now, as is that of Lyman Beecher:[1] it is stamped on his moral being, and is, like it, imperishable. Now if rights are founded in the nature of our moral being, then the *mere circumstance of sex* does not give to man higher rights and responsibilities, than to woman. To suppose that it does, would be to deny the self-evident truth, that the "physical constitution is the mere instrument of the moral nature." To suppose that it does, would be to break up utterly the relations, of the two natures, and to reverse their functions, exalting the animal nature into a monarch, and humbling the moral into a slave; making the former a proprietor, and the latter its property.

When human beings are regarded as *moral* beings, *sex*, instead of being enthroned upon the summit, administering upon rights and responsibilities, sinks into insignificance and nothingness. My doctrine then is, that whatever it is morally right for man to do, it is morally right for woman to do. Our duties originate, not from difference of sex, but from the diversity of our relations in life, the various gifts and talents committed to our care, and the different eras in which we live.

[1] Lyman Beecher was a famous minister and the father of Catharine Beecher.

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CONTINUE

11

In Passage 1, Beecher makes which point about the status of women relative to that of men?

A) Women depend on men for their safety and security, but men are largely independent of women.

B) Women are inferior to men, but women play a role as significant as that played by men.

C) Women have fewer rights than men do, but women also have fewer responsibilities.

D) Women are superior to men, but tradition requires women to obey men.

12

Which choice provides the best evidence for the answer to the previous question?

A) Lines 6-10 ("But . . . all-pervading")

B) Lines 13-14 ("A man . . . debate")

C) Lines 16-18 ("he may coerce . . . sphere")

D) Lines 41-46 ("but whatever . . . sphere")

13

In Passage 1, Beecher implies that women's effect on public life is largely

A) overlooked, because few men are interested in women's thoughts about politics.

B) indirect, because women exert their influence within the home and family life.

C) unnecessary, because men are able to govern society themselves.

D) symbolic, because women tend to be more idealistic about politics than men are.

14

As used in line 2, "station" most nearly means

A) region.

B) studio.

C) district.

D) rank.

15

As used in line 12, "peculiar" most nearly means

A) eccentric.

B) surprising.

C) distinctive.

D) infrequent.

16

What is Grimké's central claim in Passage 2?

A) The rights of individuals are not determined by race or gender.

B) Men and women must learn to work together to improve society.

C) Moral rights are the most important distinction between human beings and animals.

D) Men and women should have equal opportunities to flourish.

17

In Passage 2, Grimké makes which point about human rights?

A) They are viewed differently in various cultures around the world.

B) They retain their moral authority regardless of whether they are recognized by law.

C) They are sometimes at odds with moral responsibilities.

D) They have become more advanced and refined throughout history.

18

Which choice provides the best evidence for the answer to the previous question?

A) Lines 58-61 ("Human . . . same rights")

B) Lines 61-65 ("These . . . imperishable")

C) Lines 71-76 ("To suppose . . . property")

D) Lines 77-81 ("When . . . nothingness")

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19

Which choice best states the relationship between the two passages?

A) Passage 2 illustrates the practical difficulties of a proposal made in Passage 1.

B) Passage 2 takes issue with the primary argument of Passage 1.

C) Passage 2 provides a historical context for the perspective offered in Passage 1.

D) Passage 2 elaborates upon several ideas implied in Passage 1.

20

Based on the passages, both authors would agreewith which of the following claims?

A) Women have moral duties and responsibilities.

B) Men often work selflessly for political change.

C) The ethical obligations of women are often undervalued.

D) Political activism is as important for women as it is for men.

21

Beecher would most likely have reacted to lines 65-68 ("Now . . . woman") of Passage 2 with

A) sympathy, because she feels that human beings owe each other a debt to work together in the world.

B) agreement, because she feels that human responsibilities are a natural product of human rights.

C) dismay, because she feels that women actually have a more difficult role to play in society than men do.

D) disagreement, because she feels that the naturesof men and women are fundamentally different.

Questions 22-31 are based on the followingpassage and supplementary material.

This passage is adapted from Bryan Walsh, "Whole Food Blues: Why Organic Agriculture May Not Be So Sustainable." ©2012 by Time Inc.

When it comes to energy, everyone loves efficiency. Cutting energy waste is one of those goals that both sides of the political divide can agree on, even if they sometimes diverge on how best to get there. Energy efficiency allows us to get more out of our given resources, which is good for the economy and (mostly) good for the environment as well. In an increasingly hot and crowded world, the only sustainable way to live is to get more out of less. Every environmentalist would agree.

But change the conversation to food, and suddenly efficiency doesn't look so good. Conventional industrial agriculture has become incredibly efficient on a simple land to food basis. Thanks to fertilizers, mechanization and irrigation, each American farmer feeds over 155 people worldwide. Conventional farming gets more and more crop per square foot of cultivated land—over 170 bushels of corn per acre in Iowa, for example—which can mean less territory needs tobe converted from wilderness to farmland. And since a third of the planet is already used for agriculture—destroying forests and other wild habitats along the way—anything that could help us produce more food on less land would seem to be good for the environment.

Of course, that's not how most environmentalists regard their arugula [a leafy green]. They have embraced organic food as better for the planet—and healthier and tastier, too—than the stuff produced by agricultural corporations. Environmentalists disdain the enormous amounts of energy needed and waste created by conventional farming, while organic practices—forgoing artificial fertilizers and chemical pesticides—are considered far more sustainable. Sales of organic food rose 7.7% in 2010, up to $26.7 billion—and people are making those purchases for their consciences as much as their taste buds.

Yet a new meta-analysis in *Nature* does the math and comes to a hard conclusion: organic farming yields 25% fewer crops on average than conventional agriculture. More land is therefore needed to produce fewer crops—and that means organic farming may not be as good for the planet as we think.

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In the *Nature* analysis, scientists from McGill University in Montreal and the University of Minnesota performed an analysis of 66 studies comparing conventional and organic methods across 34 different crop species, from fruits to grains to legumes. They found that organic farming delivered a lower yield for every crop type, though the disparity varied widely. For rain-watered legume crops like beans or perennial crops like fruit trees, organic trailed conventional agriculture by just 5%. Yet for major cereal crops like corn or wheat, as well as most vegetables—all of which provide the bulk of the world's calories—conventional agriculture outperformed organics by more than 25%.

The main difference is nitrogen, the chemical key to plant growth. Conventional agriculture makes use of 171 million metric tons of synthetic fertilizer each year, and all that nitrogen enables much faster plant growth than the slower release of nitrogen from the compost or cover crops used in organic farming. When we talk about a Green Revolution, we really mean a nitrogen revolution—along with a lot of water.

But not all the nitrogen used in conventional fertilizer ends up in crops—much of it ends up running off the soil and into the oceans, creating vast polluted dead zones. We're already putting more nitrogen into the soil than the planet can stand over the long term. And conventional agriculture also depends heavily on chemical pesticides, which can have unintended side effects.

What that means is that while conventional agriculture is more efficient—sometimes much more efficient—than organic farming, there are trade-offs with each. So an ideal global agriculture system, in the views of the study's authors, may borrow the best from both systems, as Jonathan Foley of the University of Minnesota explained:

> The bottom line? Today's organic farming practices are probably best deployed in fruit and vegetable farms, where growing nutrition (not just bulk calories) is the primary goal. But for delivering sheer calories, especially in our staple crops of wheat, rice, maize, soybeans and so on, conventional farms have the advantage right now.
>
> Looking forward, I think we will need to deploy different kinds of practices (especially new, mixed approaches that take the best of organic and conventional farming systems) where they are best suited—geographically, economically, socially, etc.

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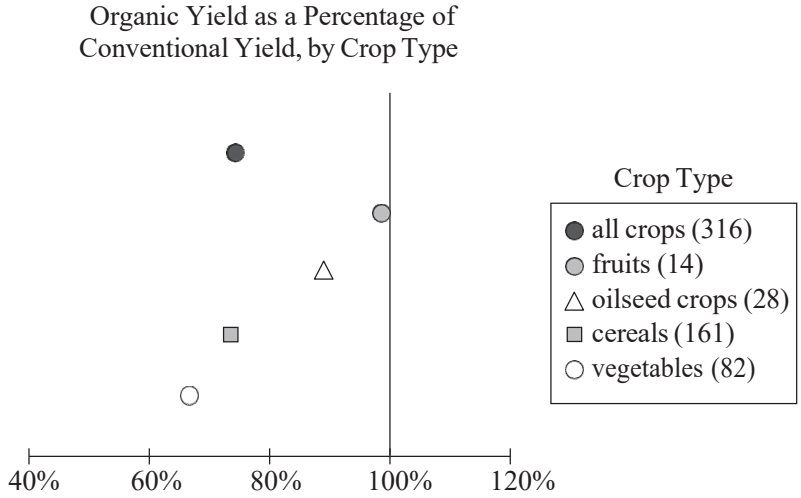
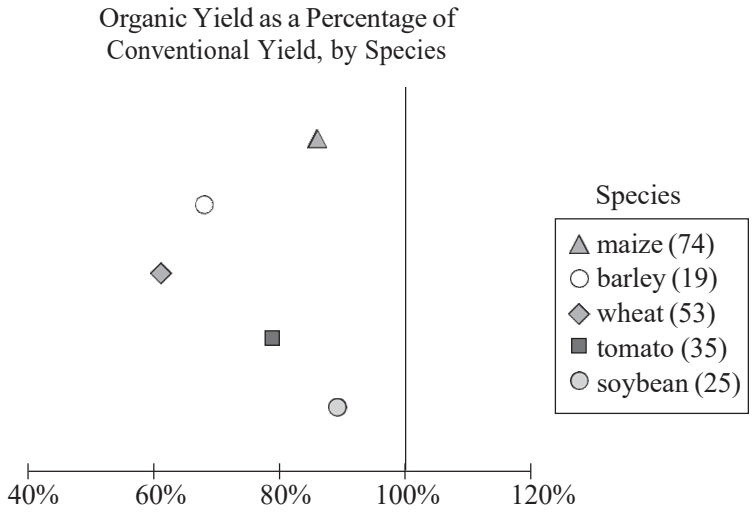
Figure 1



At 100%, the organic yield is the same as the conventional yield. The number of observations for each crop type is shown in parentheses.

Figure 2



At 100%, the organic yield is the same as the conventional yield. The number of observations for each species is shown in parentheses.

Figures adapted from Verena Seufert, Navin Ramankutty, and Jonathan A. Foley,"Comparing the Yields of Organic and Conventional Agriculture." ©2012 by Nature Publishing Group.

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CONTINUE

22

As used in line 14, "simple" most nearly means

A) straightforward.
B) modest.
C) unadorned.
D) easy.

23

According to the passage, a significant attribute of conventional agriculture is its ability to

A) produce a wide variety of fruits and vegetables.
B) maximize the output of cultivated land.
C) satisfy the dietary needs of the world's population.
D) lessen the necessity of nitrogen in plant growth.

24

Which choice best reflects the perspective of the "environmentalists" (line 27) on conventional agriculture?

A) It produces inferior fruits and vegetables and is detrimental to the environment.
B) It is energy efficient and reduces the need to convert wilderness to farmland.
C) It is good for the environment only in the short run.
D) It depletes critical resources but protects wildlife habitats.

25

Which choice provides the best evidence for theanswer to the previous question?

A) Lines 27-28 ("Of course . . . green")
B) Lines 28-31 ("They . . . corporations")
C) Lines 31-35 ("Environmentalists . . . sustainable")
D) Lines 42-45 ("More . . . think")

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26

Which statement best expresses a relationship between organic farming and conventional farming that is presented in the passage?

A) Both are equally sustainable, but they differ dramatically in the amount of land they require to produce equivalent yields.

B) Both rely on artificial chemicals for pest control, but organic farmers use the chemicals sparingly in conjunction with natural remedies.

C) Both use nitrogen to encourage plant growth, but the nitrogen used in conventional farming comes from synthetic sources.

D) Both create a substantial amount of nitrogen runoff, but only the type of nitrogen found in fertilizers used in conventional farming can be dangerous.

27

Which choice provides the best evidence for the answer to the previous question?

A) Lines 13-14 ("Conventional . . . basis")

B) Lines 22-26 ("And since . . . environment")

C) Lines 51-53 ("They . . . widely")

D) Lines 61-65 ("Conventional . . . farming")

28

According to Foley, an "ideal global agriculturesystem" (line 80)

A) focuses primarily on yield percentages and global markets.

B) considers multiple factors in the selection of farming techniques.

C) weighs the economic interests of farmers against the needs of consumers.

D) puts the nutritional value of produce first and foremost.

29

In line 88, "sheer" most nearly means

A) transparent.

B) abrupt.

C) steep.

D) pure.

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30

Which statement is best supported by theinformation provided in figure 1?

A) The organic yield as a percentage of conventional yield is greater for vegetables than for fruits.

B) The organic yield as a percentage of conventional yield is similar for cereals and all crops.

C) The reported number of observations for each crop type exceeds 82.

D) The organic yield as a percentage of conventional yield is greater for vegetable crops than it is for oilseed crops.

31

Which of the following claims is supported byfigure 2?

A) Of the organically grown species represented, soybeans have the lowest yield.

B) The organically grown maize and barley represented are comparable in their yields to conventionally grown maize and barley.

C) Of the organically grown species represented, tomatoes have the highest yield.

D) The organically grown species represented have lower yields than their conventionally grown counterparts do.

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Questions 32-41 are based on the followingpassage and supplementary material.

This passage is adapted from John Bohannon, "Why You Shouldn't Trust Internet Comments." ©2013 by American Association for the Advancement of Science.

The "wisdom of crowds" has become a mantra of the Internet age. Need to choose a new vacuum cleaner? Check out the reviews on online merchant Amazon. But a new study suggests that such online scores don't always reveal the best choice. A massive controlled experiment of Web users finds that such ratings are highly susceptible to irrational "herd behavior"—and that the herd can be manipulated.

Sometimes the crowd really is wiser than you. The classic examples are guessing the weight of a bull or the number of gumballs in a jar. Your guess is probably going to be far from the mark, whereas the average of many people's choices is remarkably close to the true number.

But what happens when the goal is to judge something less tangible, such as the quality or worth of a product? According to one theory, the wisdom of the crowd still holds—measuring the aggregate of people's opinions produces a stable, reliable value. Skeptics, however, argue that people's opinions are easily swayed by those of others. So nudging a crowd early on by presenting contrary opinions—for example, exposing them to some very good or very bad attitudes—will steer the crowd in a different direction. To test which hypothesis is true, you would need to manipulate huge numbers of people, exposing them to false information and determining how it affects their opinions.

A team led by Sinan Aral, a network scientist at the Massachusetts Institute of Technology in Cambridge, did exactly that. Aral has been secretly working with a popular website that aggregates news stories. The website allows users to make comments about news stories and vote each other's comments up or down. The vote tallies are visible as a number next to each comment, and the position of the comments is chronological. (Stories on the site get an average of about ten comments and about three votes per comment.) It's a follow-up to his experiment using people's ratings of movies to measure how much individual people influence each other online (answer: a lot). This time, he wanted to know how much the crowd influences the individual, and whether it can be controlled from outside.

For five months, every comment submitted by a user randomly received an "up" vote (positive); a "down" vote (negative); or as a control, no vote at all. The team then observed how users rated those comments. The users generated more than 100,000 comments that were viewed more than 10 million times and rated more than 300,000 times by other users.

At least when it comes to comments on news sites, the crowd is more herdlike than wise. Comments that received fake positive votes from the researchers were 32% more likely to receive more positive votes compared with a control, the team reports. And those comments were no more likely than the control to be down-voted by the next viewer to see them. By the end of the study, positively manipulated comments got an overall boost of about 25%. However, the same did not hold true for negative manipulation. The ratings of comments that got a fake down vote were usually negated by an up vote by the next user to see them.

"Our experiment does not reveal the psychology behind people's decisions," Aral says, "but an intuitive explanation is that people are more skeptical of negative social influence. They're more willing to go along with positive opinions from other people."

Duncan Watts, a network scientist at Microsoft Research in New York City, agrees with that conclusion. "[But] one question is whether the positive [herding] bias is specific to this site" or true in general, Watts says. He points out that the category of the news items in the experiment had a strong effect on how much people could be manipulated. "I would have thought that 'business' is pretty similar to 'economics,' yet they find a much stronger effect (almost 50% stronger) for the former than the latter. What explains this difference? If we're going to apply these findings in the real world, we'll need to know the answers."

Will companies be able to boost their products by manipulating online ratings on a massive scale? "That is easier said than done," Watts says. If people detect—or learn—that comments on a website are being manipulated, the herd may spook and leave entirely.

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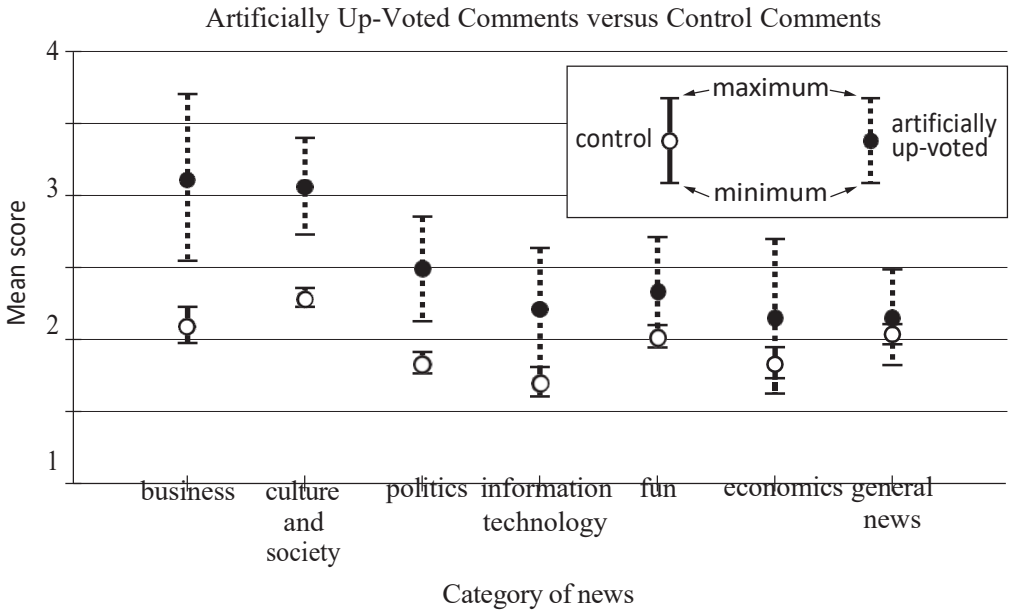

Mean score: mean of scores for the comments in each category, with the score for each comment being determined bythe number of positive votes from website users minus the number of negative votes

Adapted from Lev Muchnik, Sinan Aral, and Sean J. Taylor, "Social Influence Bias: A Randomized Experiment." ©2013 by AmericanAssociation for the Advancement of Science.

32

Over the course of the passage, the main focus shifts from a discussion of an experiment and its results to

A) an explanation of the practical applications of the results.

B) a consideration of the questions prompted by the results.

C) an analysis of the defects undermining the results.

D) a conversation with a scientist who disputes the results.

33

The author of the passage suggests that crowds may be more effective at

A) creating controversy than examining an issue in depth.

B) reinforcing members' ideas than challenging those ideas.

C) arriving at accurate quantitative answers than producing valid qualitative judgments.

D) ranking others' opinions than developing genuinely original positions.

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CONTINUE

34

Which choice provides the best evidence for the answer to the previous question?

A) Line 9 ("Sometimes . . . you")
B) Lines 11-14 ("Your . . . number")
C) Lines 17-20 ("According . . . value")
D) Lines 25-28 ("To test . . . opinions")

35

Which choice best supports the view of the "skeptics" (line 20)?

A) Lines 55-58 ("Comments . . . reports")
B) Lines 58-60 ("And . . . them")
C) Lines 63-65 ("The ratings . . . them")
D) Lines 76-79 ("He . . . manipulated")

36

Which action would best address a question Watts raises about the study?

A) Providing fewer fake positive comments
B) Using multiple websites to collect ratings
C) Requiring users to register on the website before voting
D) Informing users that voting data are being analyzed

37

As used in line 85, "boost" most nearly means

A) increase.
B) accelerate.
C) promote.
D) protect.

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CONTINUE

38

As used in line 86, "scale" most nearly means

A) level.
B) wage.
C) interval.
D) scheme.

39

In the figure, which category of news has an artificially up-voted mean score of 2.5?

A) Business
B) Politics
C) Fun
D) General news

40

According to the figure, which category of news showed the smallest difference in mean score between artificially up-voted comments and control comments?

A) Culture and society
B) Information technology
C) Fun
D) General news

41

Data presented in the figure most directly support which idea from the passage?

A) The mean score of artificially down-voted comments is similar to that of the control.
B) The patterns observed in the experiment suggest that people are suspicious of negative social influence.
C) The positive bias observed in users of the news site may not apply to human behavior in other contexts.
D) The type of story being commented on has an impact on the degree to which people can be influenced.

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CONTINUE

Questions 42-52 are based on the followingpassage.

This passage is adapted from Joshua Foer, *Moonwalking with Einstein: The Art and Science of Remembering Everything*. ©2011 by Joshua Foer.

In 2000, a neuroscientist at University College London named Eleanor Maguire wanted to find out what effect, if any, all that driving around the Line labyrinthine streets of London might have on 5 cabbies' brains. When she brought sixteen taxi drivers into her lab and examined their brains in an MRI scanner, she found one surprising and important difference. The right posterior hippocampus, a part of the brain known to be 10 involved in spatial navigation, was 7 percent larger than normal in the cabbies—a small but very significant difference. Maguire concluded that all of that way-finding around London had physically altered the gross structure of their brains. The more 15 years a cabbie had been on the road, the more pronounced the effect.

The brain is a mutable organ, capable—within limits—of reorganizing itself and readapting to new kinds of sensory input, a phenomenon known as 20 neuroplasticity. It had long been thought that the adult brain was incapable of spawning new neurons—that while learning caused synapses to rearrange themselves and new links between brain cells to form, the brain's basic anatomical structure 25 was more or less static. Maguire's study suggested the old inherited wisdom was simply not true.

After her groundbreaking study of London cabbies, Maguire decided to turn her attention to mental athletes. She teamed up with Elizabeth 30 Valentine and John Wilding, authors of the academic monograph *Superior Memory*, to study ten individuals who had finished near the top of the World Memory Championship. They wanted to find out if the memorizers' brains were—like the London 35 cabbies'—structurally different from the rest of ours,or if they were somehow just making better use of memory abilities that we all possess.

The researchers put both the mental athletes and a group of matched control subjects into MRI scanners 40 and asked them to memorize three-digit numbers, black-and-white photographs of people's faces, and magnified images of snowflakes, while their brains were being scanned. Maguire and her team thought it was possible that they might discover anatomical 45 differences in the brains of the memory champs, evidence that their brains had somehow reorganized themselves in the process of doing all that intensive remembering. But when the researchers reviewed the imaging data, not a single significant structural 50 difference turned up. The brains of the mental athletes appeared to be indistinguishable from thoseof the control subjects. What's more, on every singletest of general cognitive ability, the mental athletes' scores came back well within the normal range. The 55 memory champs weren't smarter, and they didn'thave special brains.

But there was one telling difference between the brains of the mental athletes and the control subjects: When the researchers looked at which parts of the 60 brain were lighting up when the mental athletes were memorizing, they found that they were activating entirely different circuitry. According to the functional MRIs [fMRIs], regions of the brain that were less active in the control subjects seemed to be 65 working in overdrive for the mental athletes.

Surprisingly, when the mental athletes were learning new information, they were engaging several regions of the brain known to be involved in two specific tasks: visual memory and spatial 70 navigation, including the same right posterior hippocampal region that the London cabbies had enlarged with all their daily way-finding. At first glance, this wouldn't seem to make any sense. Why would mental athletes be conjuring images in 75 their mind's eye when they were trying to learn three-digit numbers? Why should they be navigating like London cabbies when they're supposed to be remembering the shapes of snowflakes?

Maguire and her team asked the mental athletes 80 to describe exactly what was going through their minds as they memorized. The mental athletes said they were consciously converting the information they were being asked to memorize into images, and distributing those images along familiar spatial 85 journeys. They weren't doing this automatically, or because it was an inborn talent they'd nurtured since childhood. Rather, the unexpected patterns of neural activity that Maguire's fMRIs turned up were the result of training and practice.

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CONTINUE

42

According to the passage, Maguire's findings regarding taxi drivers are significant because they

A) demonstrate the validity of a new method.
B) provide evidence for a popular viewpoint.
C) call into question an earlier consensus.
D) challenge the authenticity of previous data.

43

Which choice provides the best evidence for the answer to the previous question?

A) Lines 8-12 ("The right . . . difference")
B) Lines 12-16 ("Maguire . . . effect")
C) Lines 17-20 ("The brain . . . neuroplasticity")
D) Lines 20-26 ("It had . . . true")

44

As used in line 24, "basic" most nearly means

A) initial.
B) simple.
C) necessary.
D) fundamental.

45

Which question was Maguire's study of mental athletes primarily intended to answer?

A) Does the act of memorization make use of different brain structures than does the act of navigation?
B) Do mental athletes inherit their unusual brain structures, or do the structures develop as a result of specific activities?
C) Does heightened memorization ability reflect abnormal brain structure or an unusual use of normal brain structure?
D) What is the relationship between general cognitive ability and the unusual brain structures of mental athletes?

46

Which choice provides the best evidence for theanswer to the previous question?

A) Lines 27-29 ("After . . . athletes")
B) Lines 33-37 ("They . . . possess")
C) Lines 38-43 ("The researchers . . . scanned")
D) Lines 52-54 ("What's . . . range")

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CONTINUE

47

As used in line 39, "matched" most nearly means

A) comparable.
B) identical.
C) distinguishable.
D) competing.

48

The main purpose of the fifth paragraph (lines 57-65) is to

A) relate Maguire's study of mental athletes to her study of taxi drivers.
B) speculate on the reason for Maguire's unexpected results.
C) identify an important finding of Maguire's study of mental athletes.
D) transition from a summary of Maguire's findings to a description of her methods.

49

According to the passage, when compared to mental athletes, the individuals in the control group in Maguire's second study

A) showed less brain activity overall.
B) demonstrated a wider range of cognitive ability.
C) exhibited different patterns of brain activity.
D) displayed noticeably smaller hippocampal regions.

50

The passage most strongly suggests that mental athletes are successful at memorization because they

A) exploit parts of the brain not normally used in routine memorization.
B) convert information they are trying to memorize into abstract symbols.
C) organize information into numerical lists prior to memorization.
D) exercise their brains regularly through puzzles and other mental challenges.

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CONTINUE

51

Which choice provides the best evidence for the answer to the previous question?

A) Lines 66-72 ("Surprisingly . . . way-finding")
B) Lines 72-73 ("At first . . . sense")
C) Lines 79-81 ("Maguire . . . memorized")
D) Lines 85-87 ("They . . . childhood")

52

The questions in lines 74-78 primarily serve to

A) raise doubts about the reliability of the conclusions reached by Maguire.
B) emphasize and elaborate on an initially puzzling result of Maguire's study of mental athletes.
C) imply that Maguire's findings undermine earlier studies of the same phenomenon.
D) introduce and explain a connection between Maguire's two studies and her earlier work.

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section.

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Writing and Language Test

35 MINUTES, 44 QUESTIONS

Turn to Section 2 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage below is accompanied by a number of questions. For some questions, you will consider how the passage might be revised to improve the expression of ideas. For other questions, you will consider how the passage might be edited to correct errors in sentence structure, usage, or punctuation. A passage or a question may be accompanied by one or more graphics (such as a table or graph) that you will consider as you make revising and editing decisions.

Some questions will direct you to an underlined portion of a passage. Other questions willdirect you to a location in a passage or ask you to think about the passage as a whole.

After reading each passage, choose the answer to each question that most effectively improves the quality of writing in the passage or that makes the passage conform to the conventions of standard written English. Many questions include a "NO CHANGE" option.Choose that option if you think the best choice is to leave the relevant portion of the passage as it is.

Questions 1-11 are based on the following passage.

Prehistoric Printing

Paleontologists are using modern technology to gain a greater understanding of the distant past. With the aid of computed tomography (CT) scanning and 3-D printing, researchers are able to create accurate models of prehistoric fossils. [1] These models have expanded

1

At this point, the writer is considering adding the following sentence.

> Fossils provide paleontologists with a convenient way of estimating the age of the rock in which the fossils are found.

Should the writer make this addition here?

A) Yes, because it supports the paragraph's argument with an important detail.

B) Yes, because it provides a logical transition from the preceding sentence.

C) No, because it is not directly related to the main point of the paragraph.

D) No, because it undermines the main claim of the paragraph.

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CONTINUE

researchers' knowledge of ancient species and 2 swear to advance the field of paleontology in the years to come.

CT scanners use X-rays to map the surface of a fossil in minute detail, recording as many as one million data points to create a digital blueprint. A 3-D printer then builds a polymer model based on this blueprint, much as a regular computer printer reproduces digital documents on paper. 3 Whereas the head of an ordinary computer printer moves back and forth while printing ink onto paper, the corresponding part of a 3-D printer moves in multiple dimensions while squirting out thin layers of melted polymer plastic. The plastic hardens quickly, 4 it allows the printer to build the layers of the final model. Compared with older ways of modeling fossils, scanning and printing in this way is extremely versatile.

2

A) NO CHANGE
B) subscribe
C) vow
D) promise

3

The writer is considering deleting the underlined sentence. Should the sentence be kept or deleted?

A) Kept, because it helps explain why X-rays are used in CT scanners.
B) Kept, because it provides details to illustrate how a 3-D printer works.
C) Deleted, because it contradicts the passage's information about digital blueprints.
D) Deleted, because it creates confusion about how researchers gather data.

4

A) NO CHANGE
B) this
C) which
D) that

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CONTINUE

[1] One significant benefit of 3-D printing technology is its ability to create scale reproductions of fossils. [2] But now 3-D scale models can be rearranged with ease, which is a huge boon to scientists. [3] A team led by Drexel University professor Kenneth Lacovara is making models of dinosaur bones one-tenth the bones' original sizes 5 in order to learn how they fit together when the animals were alive. [4] In the past, such research was limited by the weight and bulk of the fossils as well as 6 its preciousness and fragility. [5] In many cases, scientists had to rearrange bones virtually, using artists' renderings. 7

Because CT scanners can map objects that are impossible to excavate, CT scanning and 3-D printing can also be used to reproduce fossils that scientists cannot observe firsthand. 8 By contrast, researchers

5

A) NO CHANGE
B) in order for learning
C) so that one is learning
D) so to learn

6

A) NO CHANGE
B) it's
C) their
D) there

7

To make this paragraph most logical, sentence 2 should be placed

A) where it is now.
B) before sentence 1.
C) after sentence 4.
D) after sentence 5.

8

A) NO CHANGE
B) Nonetheless,
C) Besides,
D) For example,

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CONTINUE

from the National Museum of Brazil 9 has relied on this technique to study a fossilized skeleton that was discovered protruding from a rock at an old São Paulo railroad site. 10 The fossil was too delicate to be removed from the rock. Because of the fossil's delicate nature, the team dug up a block of stone around the fossil and brought it to their lab. With the aid of a CT scanner and a 3-D printer, they were able to produce a resin model of the fossil. Examining the model, the researchers determined that 11 one had found a new species, a 75-million-year-old crocodile. While not every discovery will be as dramatic as this one, paleontologists anticipate further expanding their knowledge of ancient life-forms as CT scanning and 3-D printing continue to make fossils more accessible.

9

A) NO CHANGE
B) relied
C) will rely
D) is relying

10

Which choice most effectively combines the underlined sentences?

A) The fossil could not be removed from the rock on account of it being too delicate; moreover, the team dug up a block of stone around it and brought it to their lab.
B) The team thought the fossil was too delicate to remove from the rock, and their next decision was to dig up a block of stone around the fossil and bring it to their lab.
C) The fossil was too delicate to be removed from the rock, so the team dug up a block of stone around the fossil and brought it to their lab.
D) In removing the fossil from the rock, the team found it was too delicate; then they dug up a block of stone around the fossil and brought it to their lab.

11

A) NO CHANGE
B) he or she
C) they
D) it

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CONTINUE

Questions 12-22 are based on the following passage.

Thomas Nast, the Crusading Cartoonist

"Stop them pictures!" Legend has it that the corrupt politician William "Boss" Tweed once used those words when ordering someone to offer a bribe to Thomas Nast, an artist who had become famous for cartoons that called for reforms to end corruption. **12** As a result, Tweed's attempt to silence the artist failed, and Nast's cartoons, published in magazines like *Harper's Weekly*, actually played a key role in bringing Boss Tweed and his cronies to justice.

13 There were powerful political organizations in the 1860s and the 1870s. The organizations were known as "political machines" and started taking control of city governments. These political machines were able to pack legislatures and courts with hand-picked supporters by purchasing **14** votes, a form of election fraud involving the exchange of money or favors for votes. Once a political machine had control of enough important positions, its members were able to use public funds to enrich themselves and their friends. Boss Tweed's Tammany Hall group, which controlled New York **15** City in the 1860s—stole more than $30 million,

12

A) NO CHANGE
B) Therefore,
C) Furthermore,
D) DELETE the underlined portion.

13

Which choice most effectively combines theunderlined sentences?

A) Powerful political organizations in the 1860s and the 1870s started taking control of city governments, and they were known as "political machines."
B) Known as "political machines," in the 1860s and the 1870s, political organizations that were powerful started taking control of city governments.
C) City governments were taken control of in the 1860s and the 1870s, and powerful political organizations known as "political machines" did so.
D) In the 1860s and the 1870s, powerful political organizations known as "political machines" started taking control of city governments.

14

A) NO CHANGE
B) votes, being
C) votes, that is
D) votes, which it is

15

A) NO CHANGE
B) City in the 1860s,
C) City, in the 1860s,
D) City in the 1860s

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CONTINUE

the equivalent of more than $365 million today.

16 Tweed had been elected to a single two-year term in Congress in 1852. Tammany Hall was so powerful and 17 corrupt that, the *New York Times*, commented "There is absolutely nothing . . . in the city which isbeyond the reach of the insatiable gang."

Given the extent of Tweed's power, it is remarkable that a single cartoonist could have played such a significant role in bringing about his downfall. Nast's cartoons depicted Tweed as a great big bloated thief. One of the artist's most 18 famous images showed Tweed with a bag of money in place of his 19 head. Another featured Tweed leaning against a ballot box with the caption "As long as I count the votes, what are you going to do about it?" These cartoons were so effective in part because many of the citizens who supported Tweed were illiterate and thus could not read the newspaper accountsof his criminal activities. Nast's cartoons, though, widely exposed the public to the injustice of Tweed's political machine.

16

The writer is considering deleting the underlined sentence. Should the sentence be kept or deleted?

A) Kept, because it introduces the quote from the *New York Times* in the next sentence.
B) Kept, because it adds a vital detail about Tweed that is necessary to understand his power.
C) Deleted, because it blurs the focus of the paragraph by introducing loosely related information.
D) Deleted, because it contains information that undermines the main claim of the passage.

17

A) NO CHANGE
B) corrupt, that the *New York Times* commented,
C) corrupt that the *New York Times* commented,
D) corrupt that the *New York Times*, commented

18

A) NO CHANGE
B) famous and well-known
C) famous and commonly known
D) famous, commonly known

19

Which choice adds the most relevant supporting information to the paragraph?

A) head; like many other Nast cartoons, that one was published in *Harper's Weekly*.
B) head; Nast would later illustrate Tweed's escape from prison.
C) head, one depiction that omits Tweed's signature hat.
D) head, an image that perfectly captured Tweed's greedy nature.

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CONTINUE

Nast's campaign to bring down Tweed and the Tammany Hall gang was ultimately successful. In the elections of 1871, the public voted against most of the Tammany Hall candidates, greatly weakening Tweed'spower. Eventually, Tweed and his gang were **20** persecuted for a number of charges, including fraud and larceny, and many of them were sent to jail. In 1875 Tweed escaped from jail and fled to Spain and unwittingly **21** brought about one final **22** pinnacle for the power of political cartoons: A Spanish police officer recognized Tweed from one of Nast's cartoons. Consequently, Tweed was sent back to jail, and Nast was hailed as the man who toppled the great Tammany Hall machine.

20

A) NO CHANGE
B) persecuted on
C) persecuted with
D) prosecuted on

21

A) NO CHANGE
B) bringing
C) brings
D) has brought

22

A) NO CHANGE
B) triumph
C) culmination
D) apex

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CONTINUE

Questions 23-33 are based on the following passageand supplementary material.

Rethinking Crowdfunding in the Arts

Crowdfunding is a popular way to raise money using the Internet. The process sounds simple: an artist, entrepreneur, or other innovator takes his or her ideas straight to the public via a crowdfunding website. The innovator creates a video about the project and offers, in exchange for donations, a series of "perks," from acknowledgment on a social media site to a small piece of art. Many crowdfunding programs are all-or-nothing; in other words, the innovator must garner 100 percent funding for the project or the money is refunded to the donors. At 23 it's best, the system can give creators direct access to millions of potential backers.

The home page of one leading crowdfunding site features a project to manufacture pinhole cameras on a 3-D printer. 24 The idea is obviously very attractive. An obscure method of photography may be made available to many with little expense. Within weeks, the project was 621 percent funded. In contrast, on the same page, a small Brooklyn performance venue is attempting to raise money for its current season. The venue features works of performance art showcased in a storefront window. Those who have seen the space consider it vital. 25 However, that group may not be large enough; with just fourteen days to go in the fund-raising period, the campaign is only 46 percent funded.

23

A) NO CHANGE
B) its
C) its'
D) their

24

Which choice most effectively combines theunderlined sentences?

A) With the idea being obviously very attractive, an obscure method of photography may be made available to many at little expense.
B) The idea is obviously very attractive: an obscure method of photography may be made available to many at little expense.
C) An obscure method of photography may be made available to many at little expense, and the idea is obviously very attractive.
D) An obscure method of photography, an idea that is obviously very attractive, may be made available to many at little expense.

25

A) NO CHANGE
B) Therefore,
C) In effect,
D) As a rule,

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CONTINUE

Artists such as these Brooklyn performers find that crowdfunding exacerbates problems that already exist. **26** Work, that is easily understood and appreciated, is supported, while more complex work goes unnoticed. **27** Time that could be used creating art is spent devising clever perks to draw the attention of potential contributors. **28** In addition, audiences may contain many "free **29** riders," they did not make contributions.

26

A) NO CHANGE
B) Work that is easily understood and appreciated is supported,
C) Work that is easily understood, and appreciated is supported
D) Work—that is easily understood and appreciated—is supported,

27

At this point, the writer is considering adding the following sentence.

> Crowdfunding tends to attract contributors froma wide variety of professional fields.

Should the writer make this addition here?

A) Yes, because it gives more information about the people who donate to crowdfunding campaigns.
B) Yes, because it reinforces the writer's point about the funding of artistic projects.
C) No, because it fails to take into account project funding received from public institutions.
D) No, because it blurs the focus of the paragraph by introducing a poorly integrated piece of information.

28

A) NO CHANGE
B) Conversely,
C) However,
D) Thus,

29

A) NO CHANGE
B) riders," not making
C) riders," who did not make
D) riders" to not make

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CONTINUE

Ironically, the success of crowdfunding may weaken overall funding for the arts if people begin to feel that paying for the art 30 loved by them is someone else's responsibility.

[1] One innovative playwright has woven the deficiencies of the system into her crowdfunding model. **[2]** Though the price for her tickets was higher than that of tickets for comparable shows, it was still affordable to most theatergoers—and reflected the real cost of the performance. [3] She presented the total cost for producing her play on a crowdfunding site. [4] Then she divided the total cost by the number of people she expected to attend the performance. [5] The result of the calculation was the minimum donor price, and only donors who paid at least the minimum ticket price were allowed to attend the performance. [6] By subverting the presumption that money used for her project is an altruistic donation, the playwright showed that 31 our work has monetary value to those who enjoy it. 32

30

A) NO CHANGE
B) they love
C) loved by him or her
D) he or she loves

31

A) NO CHANGE
B) their
C) her
D) its

32

To make this paragraph most logical, sentence 2 should be placed

A) where it is now.
B) after sentence 3.
C) after sentence 4.
D) after sentence 5.

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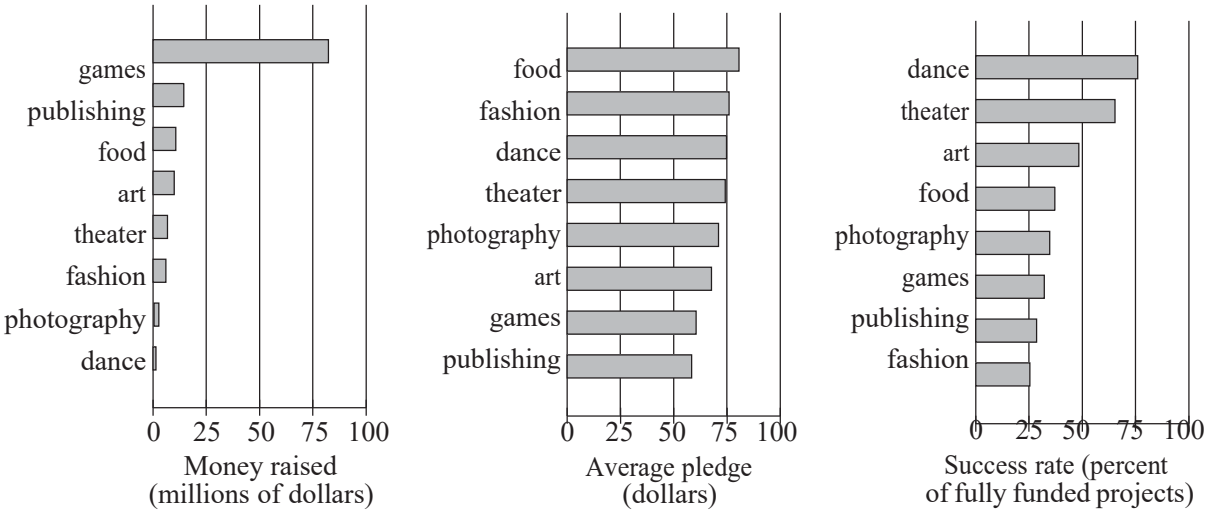
CONTINUE

Crowdfunded Projects on Kickstarter in 2012



Adapted from "These Were the Most Successful Projects on Kickstarter Last Year." ©2013 by The Economist Newspaper Limited.

Question 33 asks about the graphic.

33

Which choice offers an accurate interpretation of the data in the graphs?

A) The project category with the lowest amount of money raised was also the most successfully funded project category.

B) The project category with the highest average pledge amount was also the most successfully funded project category.

C) The project category with the lowest average pledge amount was also the project category that raised the most money.

D) The project category with the highest average pledge amount was also the project category with the most money raised.

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CONTINUE

Questions 34-44 are based on the following passage.

Investigative Journalism: An Evolving American Tradition

[1] The recent precipitous decline of print journalism as a viable profession has exacerbated long-held concerns about the state of investigative reporting in the United States. [2] Facing lower print circulation and diminished advertising revenue, many major newspapers have reduced or eliminated investigative resources. [3] Newspapers, the traditional nurturing ground for investigative journalism, have been hit especially hard by the widespread availability of free news online. [4] To survive, investigative journalism must continue to adaptto the digital age. 34

It is not difficult to understand why a cash-strapped, understaffed publication might feel pressure to cut teams of investigative 35 reporter's—their work is expensive and time-consuming. 36 Taking on the public interest, investigative journalism involves original, often long-form reporting on such topics as 37 illegal activities, street crime, corporate wrongdoing, and political corruption. An investigative story involves one or more experienced journalists dedicating their full energy and the resources of the publisher to a piece for a prolonged period of time. Expensive legal battles may ensue. The results of this work, though costly, have

34

For the sake of the logic and cohesion of the paragraph, sentence 3 should be

A) placed where it is now.
B) placed before sentence 1.
C) placed after sentence 1.
D) DELETED from the paragraph.

35

A) NO CHANGE
B) reporters:
C) reporters,
D) reporter's;

36

A) NO CHANGE
B) Undertaken in
C) Overtaking
D) Taking off from

37

A) NO CHANGE
B) business scandals,
C) abuse of government power,
D) DELETE the underlined portion.

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CONTINUE

helped keep those in power accountable. The exposure by *Washington Post* reporters Bob Woodward and Carl Bernstein of government misconduct in the Watergate scandal resulted in the resignation of President Richard Nixon in 1974. More recently, Seymour Hersh, reporting for the *New Yorker* in 2004, helped publicize the mistreatment of Iraqi prisoners by US personnel at Abu Ghraib during the Iraq War. **38** In these and other cases, exposure from reporters has served as an important **39** blockade to or scolding of malfeasance.

38

At this point, the writer is considering adding the following sentence.

> In 1954, Edward R. Murrow and Fred Friendlyproduced episodes of the CBS television show*See It Now* that contributed to the end of
> US senator Joseph McCarthy's anticommunist "witch hunts."

Should the writer make this addition here?

A) Yes, because it helps clarify that the passage's main focus is on investigations of political corruption.

B) Yes, because it offers an important counterpoint to the other cases previously described in the paragraph.

C) No, because it gives an example that is both chronologically and substantively out of place in the paragraph.

D) No, because it provides an example that is inconsistent with the passage's definition of investigative journalism.

39

A) NO CHANGE

B) interference to or condemnation of

C) drag on or reproof of

D) deterrent or rebuke to

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CONTINUE

While worrisome, the decline of traditional print media 40 could not entail the end of investigative journalism. 41 Although many newsrooms have reduced their staff, some still employ investigative reporters. Nonprofit 42 enterprises such as the Organized Crime and Corruption Reporting Project havebegun to fill the void created by staff losses at newspapersand magazines. Enterprising freelance reporters, newly funded by nonprofits, make extensive use of social media,

40

Which choice most effectively suggests that the "end of investigative journalism" is a real possibilitybut one that can be prevented?

A) NO CHANGE
B) need
C) will
D) must

41

Which choice most effectively sets up the examples in the following sentences?

A) NO CHANGE
B) Investigative journalism also declined between the 1930s and 1950s, only to be revived in the 1960s.
C) According to the Pew Research Center, more people get their national and international news from the Internet than from newspapers.
D) Indeed, recent years have witnessed innovative adjustments to changing times.

42

A) NO CHANGE
B) enterprises: such as
C) enterprises such as:
D) enterprises, such as

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CONTINUE

including blogs and Twitter, to foster a public conversation about key issues. The Help Me Investigate project, 43 for example, solicited readers to submit tips and information related to ongoing stories to its website. Far from marking the end of investigative journalism, 44 cooperation among journalists and ordinary citizens has been facilitated by the advent of the digital age through an increase in the number of potential investigators.

43

A) NO CHANGE
B) therefore,
C) however,
D) in any case,

44

A) NO CHANGE
B) the number of potential investigators has increased since the advent of the digital age owing to the facilitation of cooperation among journalists and ordinary citizens.
C) the advent of the digital age has increased the number of potential investigators by facilitating cooperation among journalists and ordinary citizens.
D) by facilitating cooperation among journalists and ordinary citizens the advent of the digital age has increased the number of potential investigators.

STOP

If you finish before time is called, you may check your work on this section only.
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36
CONTINUE

No Test Material On This Page

Practice Test #4

Make time to take the practice test. It's one of the best ways to get ready for the SAT.

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5MSA05

Test begins on the next page.

Reading Test

65 MINUTES, 52 QUESTIONS

Turn to Section 1 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage or pair of passages below is followed by a number of questions. After readingeach passage or pair, choose the best answer to each question based on what is stated or implied in the passage or passages and in any accompanying graphics (such as a table orgraph).

Questions 1-10 are based on the followingpassage.

This passage is adapted from Daniyal Mueenuddin, "Nawabdin Electrician." ©2009 by Daniyal Mueenuddin.

Another man might have thrown up his hands—but not Nawabdin. His twelve daughters acted as a spur to his genius, and he looked with
Line satisfaction in the mirror each morning at the face of
5 a warrior going out to do battle. Nawab of course knew that he must proliferate his sources of revenue—the salary he received from K. K. Harounifor tending the tube wells would not even begin to suffice. He set up a little one-room flour mill, run off
10 a condemned electric motor—condemned by him.He tried his hand at fish-farming in a little pond at the edge of his master's fields. He bought broken radios, fixed them, and resold them. He did not demur even when asked to fix watches, though that
15 enterprise did spectacularly badly, and in fact earnedhim more kicks than kudos, for no watch he took apart ever kept time again.

K. K. Harouni rarely went to his farms, but lived mostly in Lahore. Whenever the old man visited,
20 Nawab would place himself night and day at the door leading from the servants' sitting area into the walled grove of ancient banyan trees where the old farmhouse stood. Grizzled, his peculiar aviator glasses bent and smudged, Nawab tended the
25 household machinery, the air conditioners, water heaters, refrigerators, and water pumps, like an engineer tending the boilers on a foundering steamerin an Atlantic gale. By his superhuman efforts he almost managed to maintain K. K. Harouni in the
30 same mechanical cocoon, cooled and bathed and lighted and fed, that the landowner enjoyed in Lahore.

Harouni of course became familiar with this ubiquitous man, who not only accompanied him on
35 his tours of inspection, but morning and night couldbe found standing on the master bed rewiring the light fixture or in the bathroom poking at the water heater. Finally, one evening at teatime, gauging the psychological moment, Nawab asked if he might say
40 a word. The landowner, who was cheerfully filing his nails in front of a crackling rosewood fire, told him to go ahead.

"Sir, as you know, your lands stretch from here to the Indus, and on these lands are fully seventeen tube
45 wells, and to tend these seventeen tube wells there is but one man, me, your servant. In your service I haveearned these gray hairs"—here he bowed his head to show the gray—"and now I cannot fulfill my duties as I should. Enough, sir, enough. I beg you, forgive
50 me my weakness. Better a darkened house and proud hunger within than disgrace in the light of day. Release me, I ask you, I beg you."

The old man, well accustomed to these sorts of speeches, though not usually this florid, filed away at
55 his nails and waited for the breeze to stop.

"What's the matter, Nawabdin?"

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CONTINUE

"Matter, sir? O what could be the matter in your service. I've eaten your salt for all my years. But sir, on the bicycle now, with my old legs, and with the many injuries I've received when heavy machinery fell on me—I cannot any longer bicycle about like a bridegroom from farm to farm, as I could when I first had the good fortune to enter your employment.I beg you, sir, let me go."

"And what's the solution?" asked Harouni, seeing that they had come to the crux. He didn't particularly care one way or the other, except that it touched on his comfort—a matter of great interest to him.

"Well, sir, if I had a motorcycle, then I could somehow limp along, at least until I train up some younger man."

The crops that year had been good, Harouni felt expansive in front of the fire, and so, much to the disgust of the farm managers, Nawab received a brand-new motorcycle, a Honda 70. He even managed to extract an allowance for gasoline.

The motorcycle increased his status, gave him weight, so that people began calling him "Uncle," and asking his opinion on world affairs, about which he knew absolutely nothing. He could now range further, doing a much wider business. Best of all, now he could spend every night with his wife, who had begged to live not on the farm but near her family in Firoza, where also they could educate at least the two eldest daughters. A long straight road ran from the canal headworks near Firoza all the wayto the Indus, through the heart of the K. K. Harouni lands. Nawab would fly down this road on his new machine, with bags and cloths hanging from every knob and brace, so that the bike, when he hit a bump, seemed to be flapping numerous small vestigial wings; and with his grinning face, as he rolled up to whichever tube well needed servicing, with his ears almost blown off, he shone with the speed of his arrival.

1

The main purpose of the first paragraph is to

A) characterize Nawab as a loving father.

B) outline the schedule of a typical day in Nawab's life.

C) describe Nawab's various moneymaking ventures.

D) contrast Nawab's and Harouni's lifestyles.

2

As used in line 16, "kicks" most nearly means

A) thrills.

B) complaints.

C) jolts.

D) interests.

3

The author uses the image of an engineer at sea (lines 23-28) most likely to

A) suggest that Nawab often dreams of having a more exciting profession.

B) highlight the fact that Nawab's primary job is to tend to Harouni's tube wells.

C) reinforce the idea that Nawab has had many different occupations in his life.

D) emphasize how demanding Nawab's work for Harouni is.

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CONTINUE

4

Which choice best supports the claim that Nawab performs his duties for Harouni well?

A) Lines 28-32 ("By his . . . Lahore")
B) Lines 40-42 ("The landowner . . . ahead")
C) Lines 46-49 ("In your . . . should")
D) Line 58 ("I've . . . years")

5

In the context of the conversation between Nawab and Harouni, Nawab's comments in lines 43-52 ("Sir . . . beg you") mainly serve to

A) flatter Harouni by mentioning how vast his lands are.
B) boast to Harouni about how competent and reliable Nawab is.
C) emphasize Nawab's diligence and loyalty to Harouni.
D) notify Harouni that Nawab intends to quit his job tending the tube wells.

6

Nawab uses the word "bridegroom" (line 62) mainly to emphasize that he's no longer

A) in love.
B) naive.
C) busy.
D) young.

7

It can reasonably be inferred from the passage that Harouni provides Nawab with a motorcycle mainly because

A) Harouni appreciates that Nawab has to work hard to support his family.
B) Harouni sees benefit to himself from giving Nawab a motorcycle.
C) Nawab's speech is the most eloquent that Harouni has ever heard.
D) Nawab threatens to quit if Harouni doesn't agree to give him a motorcycle.

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CONTINUE

8

Which choice provides the best evidence for the answer to the previous question?

A) Lines 65-66 ("And . . . crux")
B) Lines 66-68 ("He didn't . . . him")
C) Lines 75-76 ("He even . . . gasoline")
D) Lines 80-81 ("He could . . . business")

9

The passage states that the farm managers react toNawab receiving a motorcycle with

A) disgust.
B) happiness.
C) envy.
D) indifference.

10

According to the passage, what does Nawab considerto be the best result of getting the motorcycle?

A) People start calling him "Uncle."
B) He's able to expand his business.
C) He's able to educate his daughters.
D) He can spend more time with his wife.

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CONTINUE

Questions 11-21 are based on the followingpassage and supplementary material.

This passage is adapted from Stephen Coleman, Scott Anthony, and David E. Morrison, "Public Trust in the News."
©2009 by Stephen Coleman.

The news is a form of public knowledge. Unlike personal or private knowledge (such as the health of one's friends and family; the conduct of a private hobby; a secret liaison), public knowledge increases in value as it is shared by more people. The date of an election and the claims of rival candidates; the causes and consequences of an environmental disaster; a debate about how to frame a particular law; the latest reports from a war zone—these are all examples of public knowledge that people are generally expected to know in order to be considered informed citizens. Thus, in contrast to personal or private knowledge, which is generally left to individuals to pursue or ignore, public knowledge is promoted even to those who might not think it matters to them. In short, the circulation of public knowledge, including the news, is generally regarded as a public good which cannot be solely demand-driven.

The production, circulation, and reception of public knowledge is a complex process. It is generally accepted that public knowledge shouldbe authoritative, but there is not always common agreement about what the public needs to know, who is best placed to relate and explain it, and how authoritative reputations should be determined and evaluated. Historically, newspapers such as *The Times* and broadcasters such as the BBC were widely regarded as the trusted shapers of authoritative agendas and conventional wisdom. They embodied the *Oxford English Dictionary's* definition of authority as the "power over, or title to influence, the opinions of others." As part of the general process of the transformation of authority whereby there has been a reluctance to uncritically accept traditional sources of public knowledge, the demand has been for all authority to make explicit the frames of value which determine their decisions. Centres of news production, as our focus groups show, have not been exempt from this process. Not surprisingly perhaps some news journalists feel uneasy about this renegotiation of their authority:

> Editors are increasingly casting a glance at the "most read" lists on their own and other websites to work out which stories matter to readers and viewers. And now the audience—which used to know its place—is being asked to act as a kind of journalistic ombudsman, ruling on our credibility (broadcast journalist, 2008).

> The result of democratising access to TV news could be political disengagement by the majority and a dumbing down through a popularity contest of stories (online news editor, 2007).

Despite the rhetorical bluster of these statements, they amount to more than straightforward professional defensiveness. In their reference to an audience "which used to know its place" and conflation between democratisation and "dumbing down," they are seeking to argue for a particular mode of public knowledge: one which is shaped by experts, immune from populist pressures; and disseminated to attentive, but mainly passive recipients. It is a view of citizenship that closes down opportunities for popular involvement in the making of public knowledge by reinforcing the professional claims of experts. The journalists quoted above are right to feel uneasy, for there is, at almost every institutional level in contemporary society, scepticism towards the epistemological authority of expert elites. There is a growing feeling, as expressed by several of our focus group participants, that the news media should be "informative rather than authoritative"; the job of journalists should be to "give the news as raw as it is, without putting their slant on it"; and people should be given "sufficient information" from which "we would be able to form opinions of our own."

At stake here are two distinct conceptions of authority. The journalists we have quoted are resistant to the democratisation of news: the supremacy of the clickstream (according to which editors raise or lower the profile of stories according to the number of readers clicking on them online); the parity of popular culture with "serious" news; the demands of some audience members forraw news rather than constructed narratives.

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CONTINUE

Percentage of Respondents Seeing News Stories as Inaccurate or Favoring One Side

	1985	1992	2003	2007	2011
News organizations...					
• Get the facts straight	55	49	36	39	25
• Often have inaccurate stories	34	44	56	53	66
• Don't know	11	7	8	8	9
• Are pretty independent	37	35	23	23	15
• Are often influenced by powerful people and organizations	53	58	70	69	80
• Don't know	10	7	7	8	5
On political and social issues, news organizations...					
• Deal fairly with all sides	34	31	26	26	16
• Tend to favor one side	53	63	66	66	77
• Don't know	13	6	8	8	7

Adapted from "Pew Research Center for the People & the Press Report onViews of the News Media, 1985–2011." ©2011 by Pew Research Center.

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CONTINUE

11

The main purpose of the passage is to

A) analyze the technological developments that have affected the production, circulation, and reception of news stories.

B) discuss changes in the perception of the news media as a source of public knowledge.

C) show how journalists' frames of value influence the production of news stories.

D) challenge the conventional view that news is a form of public knowledge.

12

According to the passage, which expectation do traditional authorities now face?

A) They should be uninfluenced by commercial considerations.

B) They should be committed to bringing about positive social change.

C) They should be respectful of the difference between public and private knowledge.

D) They should be transparent about their beliefs and assumptions.

13

Which choice provides the best evidence for the answer to the previous question?

A) Lines 2-5 ("Unlike . . . people")

B) Lines 20-21 ("The production . . . process")

C) Lines 33-38 ("As part . . . decisions")

D) Lines 43-46 ("Editors . . . viewers")

14

As used in line 24, "common" most nearly means

A) numerous.

B) familiar.

C) widespread.

D) ordinary.

15

The authors most likely include the extended quotations in lines 43-53 to

A) present contradictory examples.

B) cite representative opinions.

C) criticize typical viewpoints.

D) suggest viable alternatives.

16

The authors indicate that the public is coming to believe that journalists' reports should avoid

A) personal judgments about the events reported.

B) more information than is absolutely necessary.

C) quotations from authorities on the subject matter.

D) details that the subjects of news reports wish to keep private.

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CONTINUE

17

Which choice provides the best evidence for the answer to the previous question?

A) Lines 12-16 ("Thus . . . them")
B) Lines 30-33 ("They . . . others")
C) Lines 40-42 ("Not surprisingly . . . authority")
D) Lines 70-77 ("There . . . own")

18

As used in line 74, "raw" most nearly means

A) unfiltered.
B) exposed.
C) harsh.
D) inexperienced.

19

Based on the table, in which year were people the most trusting of the news media?

A) 1985
B) 1992
C) 2003
D) 2011

20

Which statement is best supported by information presented in the table?

A) Between 1985 and 2011, the proportion of inaccurate news stories rose dramatically.
B) Between 1992 and 2003, the proportion of people who believed that news organizations were biased almost doubled.
C) Between 2003 and 2007, people's views of the accuracy, independence, and fairness of news organizations changed very little.
D) Between 2007 and 2011, people's perception that news organizations are accurate increased, but people's perception that news organizations are fair diminished.

21

The 2011 data in the table best serve as evidence of

A) "political disengagement by the majority" (line 51).
B) "the professional claims of experts" (lines 65-66).
C) "scepticism towards the epistemological authority of expert elites" (lines 69-70).
D) "the supremacy of the clickstream" (line 81).

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CONTINUE

Questions 22-32 are based on the following passage.

This passage is adapted from Elsa Youngsteadt, "Decoding a Flower's Message." ©2012 by Sigma Xi, The Scientific Research Society.

Texas gourd vines unfurl their large, flared blossoms in the dim hours before sunrise. Until they close at noon, their yellow petals and mild, squashy aroma attract bees that gather nectar and shuttle pollen from flower to flower. But "when you advertise [to pollinators], you advertise in an open communication network," says chemical ecologist Ian Baldwin of the Max Planck Institute for Chemical Ecology in Germany. "You attract not just the good guys, but you also attract the bad guys." For a Texas gourd plant, striped cucumber beetles are among the very bad guys. They chew up pollen and petals, defecate in the flowers and transmit the dreaded bacterial wilt disease, an infection that can reduce an entire plant to a heap of collapsed tissue in mere days.

In one recent study, Nina Theis and Lynn Adler took on the specific problem of the Texas gourd—how to attract enough pollinators but not too many beetles. The Texas gourd vine's main pollinators are honey bees and specialized squash bees, which respond to its floral scent. The aroma includes 10 compounds, but the most abundant—and the only one that lures squash bees into traps—is 1,4-dimethoxybenzene.

Intuition suggests that more of that aroma should be even more appealing to bees. "We have this assumption that a really fragrant flower is going to attract a lot of pollinators," says Theis, a chemical ecologist at Elms College in Chicopee, Massachusetts. But, she adds, that idea hasn't really been tested—and extra scent could well call in more beetles, too. To find out, she and Adler planted 168 Texas gourd vines in an Iowa field and, throughout the August flowering season, made half the plants more fragrant by tucking dimethoxybenzene-treated swabs deep inside their flowers. Each treated flower emitted about 45 times more fragrance than a normal one; the other half of the plants got swabs without fragrance.

The researchers also wanted to know whether extra beetles would impose a double cost by both damaging flowers and deterring bees, which might not bother to visit (and pollinate) a flower laden with other insects and their feces. So every half hour throughout the experiments, the team plucked all the beetles off of half the fragrance-enhanced flowers and half the control flowers, allowing bees to respond to the blossoms with and without interference by beetles.

Finally, they pollinated by hand half of the female flowers in each of the four combinations of fragrance and beetles. Hand-pollinated flowers should develop into fruits with the maximum number of seeds, providing a benchmark to see whether the fragrance-related activities of bees and beetles resulted in reduced pollination.

"It was very labor intensive," says Theis. "We would be out there at four in the morning, three in the morning, to try and set up before these flowers open." As soon as they did, the team spent the next several hours walking from flower to flower, observing each for two-minute intervals "and writing down everything we saw."

What they saw was double the normal number of beetles on fragrance-enhanced blossoms. Pollinators, to their surprise, did not prefer the highly scented flowers. Squash bees were indifferent, and honey bees visited enhanced flowers less often than normal ones. Theis thinks the bees were repelled not by the fragrance itself, but by the abundance of beetles: The data showed that the more beetles on a flower, the less likely a honey bee was to visit it.

That added up to less reproduction for fragrance-enhanced flowers. Gourds that developed from those blossoms weighed 9 percent less and had, on average, 20 fewer seeds than those from normal flowers. Hand pollination didn't rescue the seed set, indicating that beetles damaged flowers directly—regardless of whether they also repelled pollinators. (Hand pollination did rescue fruit weight, a hard-to-interpret result that suggests that lost bee visits did somehow harm fruit development.)

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CONTINUE

85 The new results provide a reason that Texas gourd plants never evolved to produce a stronger scent: "If you really ramp up the odor, you don't get more pollinators, but you can really get ripped apart by your enemies," says Rob Raguso, a chemical ecologist 90 at Cornell University who was not involved in the Texas gourd study.

22

The primary purpose of the passage is to

A) discuss the assumptions and reasoning behind a theory.

B) describe the aim, method, and results of an experiment.

C) present and analyze conflicting data about a phenomenon.

D) show the innovative nature of a procedure used in a study.

23

As presented in the passage, Theis and Adler's research primarily relied on which type of evidence?

A) Direct observation

B) Historical data

C) Expert testimony

D) Random sampling

24

Which statement about striped cucumber beetles can most reasonably be inferred from the passage?

A) They feed primarily on Texas gourd plants.

B) They are less attracted to dimethoxybenzene than honey bees are.

C) They experience only minor negative effects as a result of carrying bacterial wilt disease.

D) They are attracted to the same compound in Texas gourd scent that squash bees are.

25

The author indicates that it seems initially plausible that Texas gourd plants could attract more pollinators if they

A) did not have aromatic flowers.

B) targeted insects other than bees.

C) increased their floral scent.

D) emitted more varied fragrant compounds.

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CONTINUE

26

As used in line 38, "treated" most nearly means

A) altered.
B) restored.
C) provided.
D) preserved.

27

What did Theis and Adler do as part of their study that most directly allowed Theis to reason that "bees were repelled not by the fragrance itself" (lines 70-71)?

A) They observed the behavior of bees and beetles both before and after the flowers opened in the morning.
B) They increased the presence of 1,4-dimethoxybenzene only during the August flowering season.
C) They compared the gourds that developed from naturally pollinated flowers to the gourds that developed from hand-pollinated flowers.
D) They gave bees a chance to choose between beetle-free enhanced flowers and beetle-free normal flowers.

28

Which choice provides the best evidence for the answer to the previous question?

A) Lines 45-50 ("So every . . . beetles")
B) Lines 51-53 ("Finally . . . beetles")
C) Lines 59-61 ("We would . . . open")
D) Lines 76-79 ("Gourds . . . flowers")

29

The primary function of the seventh and eighth paragraphs (lines 65-84) is to

A) summarize Theis and Adler's findings.
B) describe Theis and Adler's hypotheses.
C) illustrate Theis and Adler's methods.
D) explain Theis and Adler's reasoning.

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CONTINUE

30

In describing squash bees as "indifferent" (line 68), the author most likely means that they

A) could not distinguish enhanced flowers from normal flowers.

B) visited enhanced flowers and normal flowers at an equal rate.

C) largely preferred normal flowers to enhanced flowers.

D) were as likely to visit beetle-infested enhanced flowers as to visit beetle-free enhanced flowers.

31

According to the passage, Theis and Adler's research offers an answer to which of the following questions?

A) How can Texas gourd plants increase the number of visits they receive from pollinators?

B) Why is there an upper limit on the intensity of the aroma emitted by Texas gourd plants?

C) Why does hand pollination rescue the fruit weight of beetle-infested Texas gourd plants?

D) Why do Texas gourd plants stop producing fragrance attractive to pollinators when beetles are present?

32

Which choice provides the best evidence for theanswer to the previous question?

A) Lines 17-20 ("In one . . . beetles")

B) Lines 22-25 ("The aroma . . .1,4-dimethoxybenzene")

C) Lines 79-84 ("Hand . . . development")

D) Lines 85-86 ("The new . . . scent")

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CONTINUE

Questions 33-42 are based on the followingpassages.

Passage 1 is adapted from Abraham Lincoln, "Address to theYoung Men's Lyceum of Springfield, Illinois." Originally delivered in 1838. Passage 2 is from Henry David Thoreau, "Resistance to Civil Government." Originally published in 1849.

Passage 1

Let every American, every lover of liberty, every well wisher to his posterity, swear by the blood of the Revolution, never to violate in the least particular, the laws of the country; and never to tolerate their violation by others. As the patriots of seventy-six did to the support of the Declaration of Independence, so to the support of the Constitution and Laws, let every American pledge his life, his property, and his sacred honor;—let every man remember that to violate the law, is to trample on the blood of his father, and to tear the character of his own, and his children's liberty. Let reverence for the laws, be breathed by every American mother, to the lisping babe, that prattles on her lap—let it be taught in schools, in seminaries, and in colleges;—let it be written in Primers, spelling books, and in Almanacs;—let it be preached from the pulpit, proclaimed in legislative halls, and enforced in courts of justice. And, in short, let it become the *political religion* of the nation; and let the old and the young, the rich and the poor, the grave and the gay, of all sexes and tongues, and colors and conditions, sacrifice unceasingly upon its altars. . . .

When I so pressingly urge a strict observance of all the laws, let me not be understood as saying there are no bad laws, nor that grievances may not arise, for the redress of which, no legal provisions have been made. I mean to say no such thing. But I domean to say, that, although bad laws, if they exist, should be repealed as soon as possible, still while they continue in force, for the sake of example, they should be religiously observed. So also in unprovided cases. If such arise, let proper legal provisions be made for them with the least possible delay; but, till then, let them if not too intolerable, be borne with.

There is no grievance that is a fit object of redress by mob law. In any case that arises, as for instance, the promulgation of abolitionism, one of two positions is necessarily true; that is, the thing is right within itself, and therefore deserves the protection of all law and all good citizens; or, it is wrong, and therefore proper to be prohibited by legal enactments; and in neither case, is the interposition of mob law, either necessary, justifiable, or excusable.

Passage 2

Unjust laws exist; shall we be content to obey them, or shall we endeavor to amend them, and obey them until we have succeeded, or shall we transgress them at once? Men generally, under such a government as this, think that they ought to wait until they have persuaded the majority to alter them. They think that, if they should resist, the remedy would be worse than the evil. But it is the fault of the government itself that the remedy is worse than the evil. It makes it worse. Why is it not more apt to anticipate and provide for reform? Why does it not cherish its wise minority? Why does it cry and resist before it is hurt? . . .

If the injustice is part of the necessary friction of the machine of government, let it go, let it go; perchance it will wear smooth—certainly the machine will wear out. If the injustice has a spring, or a pulley, or a rope, or a crank, exclusively for itself, then perhaps you may consider whether the remedy will not be worse than the evil; but if it is of such a nature that it requires you to be the agent of injustice to another, then, I say, break the law. Let your life be a counter friction to stop the machine. What I have to do is to see, at any rate, that I do not lend myself tothe wrong which I condemn.

As for adopting the ways which the State has provided for remedying the evil, I know not of such ways. They take too much time, and a man's life willbe gone. I have other affairs to attend to. I came intothis world, not chiefly to make this a good place to live in, but to live in it, be it good or bad. A man has not everything to do, but something; and because he cannot do everything, it is not necessary that he should do something wrong. . . .

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CONTINUE

I do not hesitate to say, that those who call
80 themselves Abolitionists should at once effectually withdraw their support, both in person and property, from the government . . . and not wait till they constitute a majority of one, before they suffer the right to prevail through them. I think that it is
85 enough if they have God on their side, without waiting for that other one. Moreover, any man more right than his neighbors constitutes a majority of one already.

33

In Passage 1, Lincoln contends that breaking the law has which consequence?

A) It slows the repeal of bad laws.
B) It undermines and repudiates the nation's values.
C) It leads slowly but inexorably to rule by the mob.
D) It creates divisions between social groups.

34

Which choice provides the best evidence for the answer to the previous question?

A) Lines 9-12 ("let every man . . . liberty")
B) Lines 20-23 ("and let . . . altars")
C) Lines 33-35 ("If such . . . borne with")
D) Lines 36-37 ("There . . . law")

35

As used in line 24, "urge" most nearly means

A) hasten.
B) stimulate.
C) require.
D) advocate.

36

The sentence in lines 24-28 ("When . . . made") primarily serves which function in Passage 1?

A) It raises and refutes a potential counterargumentto Lincoln's argument.
B) It identifies and concedes a crucial shortcoming of Lincoln's argument.
C) It acknowledges and substantiates a central assumption of Lincoln's argument.
D) It anticipates and corrects a possible misinterpretation of Lincoln's argument.

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CONTINUE

37

As used in line 32, "observed" most nearly means

A) followed.
B) scrutinized.
C) contemplated.
D) noticed.

38

In Passage 2, Thoreau indicates that some unjust aspects of government are

A) superficial and can be fixed easily.
B) subtle and must be studied carefully.
C) self-correcting and may be beneficial.
D) inevitable and should be endured.

39

Which choice provides the best evidence for the answer to the previous question?

A) Lines 45-48 ("Unjust . . . once")
B) Lines 51-52 ("They . . . evil")
C) Lines 58-59 ("If the injustice . . . go")
D) Lines 75-78 ("A man . . . wrong")

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CONTINUE

40

The primary purpose of each passage is to

A) make an argument about the difference between legal duties and moral imperatives.

B) discuss how laws ought to be enacted and changed in a democracy.

C) advance a view regarding whether individuals should follow all of the country's laws.

D) articulate standards by which laws can be evaluated as just or unjust.

41

Based on the passages, Lincoln would most likely describe the behavior that Thoreau recommends in lines 64-66 ("if it . . . law") as

A) an excusable reaction to an intolerable situation.

B) a rejection of the country's proper forms of remedy.

C) an honorable response to an unjust law.

D) a misapplication of a core principle of the Constitution.

42

Based on the passages, one commonality in the stances Lincoln and Thoreau take toward abolitionism is that

A) both authors see the cause as warranting drastic action.

B) both authors view the cause as central to their argument.

C) neither author expects the cause to win widespread acceptance.

D) neither author embraces the cause as his own.

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CONTINUE

Questions 43-52 are based on the followingpassage and supplementary material.

This passage is adapted from Kevin Bullis, "What Tech IsNext for the Solar Industry?" ©2013 by MIT Technology Review.

Solar panel installations continue to grow quickly, but the solar panel manufacturing industry is in the doldrums because supply far exceeds demand. The poor market may be slowing innovation, but advances continue; judging by the mood this week atthe IEEE Photovoltaics Specialists Conference in Tampa, Florida, people in the industry remain optimistic about its long-term prospects.

The technology that's surprised almost everyone is conventional crystalline silicon. A few years ago, silicon solar panels cost $4 per watt, and Martin Green, professor at the University of New South Wales and one of the leading silicon solar panel researchers, declared that they'd never go below $1 a watt. "Now it's down to something like 50 cents a watt, and there's talk of hitting 36 cents per watt," he says.

The U.S. Department of Energy has set a goal of reaching less than $1 a watt—not just for the solar panels, but for complete, installed systems—by 2020. Green thinks the solar industry will hit that target even sooner than that. If so, that would bring the direct cost of solar power to six cents per kilowatt-hour, which is cheaper than the average cost expected for power from new natural gas powerplants.

All parts of the silicon solar panel industry have been looking for ways to cut costs and improve the power output of solar panels, and that's led to steady cost reductions. Green points to something as mundane as the pastes used to screen-print some of the features on solar panels. Green's lab built a solar cell in the 1990s that set a record efficiency for siliconsolar cells—a record that stands to this day. To achieve that record, he had to use expensive lithography techniques to make fine wires for collecting current from the solar cell. But gradual improvements have made it possible to use screen printing to produce ever-finer lines. Recent research suggests that screen-printing techniques can producelines as thin as 30 micrometers—about the width of the lines Green used for his record solar cells, but at costs far lower than his lithography techniques.

Meanwhile, researchers at the National Renewable Energy Laboratory have made flexible solar cells on a new type of glass from Corning called Willow Glass, which is thin and can be rolled up. The type of solar cell they made is the only current challenger to silicon in terms of large-scale production—thin-film cadmium telluride. Flexible solar cells could lower the cost of installing solar cells, making solar power cheaper.

One of Green's former students and colleagues, Jianhua Zhao, cofounder of solar panel manufacturer China Sunergy, announced this week that he is building a pilot manufacturing line for a two-sided solar cell that can absorb light from both the front and back. The basic idea, which isn't new, is that during some parts of the day, sunlight falls on the land between rows of solar panels in a solar power plant. That light reflects onto the back of the panels and could be harvested to increase the power output.This works particularly well when the solar panels are built on sand, which is highly reflective. Where a one-sided solar panel might generate 340 watts, a two-sided one might generate up to 400 watts. He expects the panels to generate 10 to 20 percent moreelectricity over the course of a year.

Even longer-term, Green is betting on silicon, aiming to take advantage of the huge reductions in cost already seen with the technology. He hopes to greatly increase the efficiency of silicon solar panelsby combining silicon with one or two other semiconductors, each selected to efficiently convert a part of the solar spectrum that silicon doesn't convert efficiently. Adding one semiconductor could boost efficiencies from the 20 to 25 percent range to around 40 percent. Adding another could make efficiencies as high as 50 percent feasible, which would cut in half the number of solar panels neededfor a given installation. The challenge is to producegood connections between these semiconductors, something made challenging by the arrangement ofsilicon atoms in crystalline silicon.

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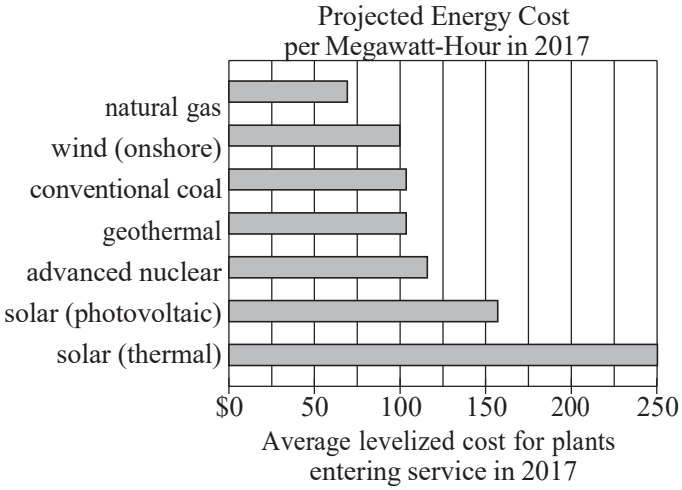
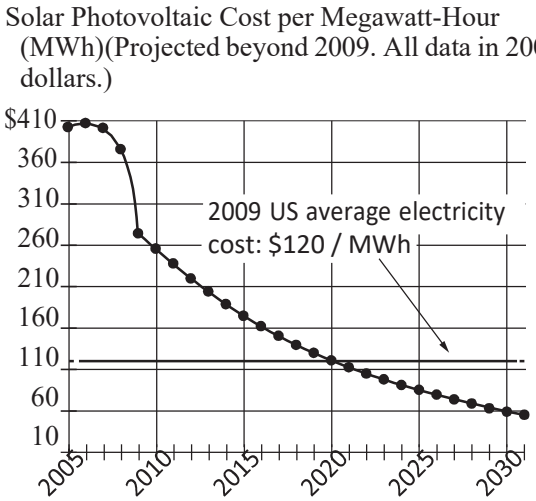
CONTINUE

Figure 1



Adapted from Peter Schwartz, "Abundant Natural Gas and Oil ArePutting the Kibosh on Clean Energy." ©2012 by Condé Nast.

Figure 2



Adapted from Ramez Naam, "Smaller, Cheaper, Faster: Does Moore's Law Apply to Solar Cells?" ©2011 by Scientific American.

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CONTINUE

43

The passage is written from the point of view of a

A) consumer evaluating a variety of options.
B) scientist comparing competing research methods.
C) journalist enumerating changes in a field.
D) hobbyist explaining the capabilities of new technology.

44

As used in line 4, "poor" most nearly means

A) weak.
B) humble.
C) pitiable.
D) obsolete.

45

It can most reasonably be inferred from the passage that many people in the solar panel industry believe that

A) consumers don't understand how solar panels work.
B) two-sided cells have weaknesses that have not yet been discovered.
C) the cost of solar panels is too high and their power output too low.
D) Willow Glass is too inefficient to be marketable.

46

Which choice provides the best evidence for the answer to the previous question?

A) Lines 1-3 ("Solar . . . demand")
B) Lines 10-15 ("A few . . . a watt")
C) Lines 22-26 ("If so . . . plants")
D) Lines 27-30 ("All . . . reductions")

47

According to the passage, two-sided solar panels will likely raise efficiency by

A) requiring little energy to operate.
B) absorbing reflected light.
C) being reasonably inexpensive to manufacture.
D) preventing light from reaching the ground.

48

Which choice provides the best evidence for the answer to the previous question?

A) Lines 58-61 ("The basic . . . plant")
B) Lines 61-62 ("That . . . output")
C) Lines 63-64 ("This . . . reflective")
D) Lines 64-66 ("Where . . . 400 watts")

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CONTINUE

49

As used in line 69, "betting on" most nearly means

A) dabbling in.
B) gambling with.
C) switching from.
D) optimistic about.

50

The last sentence of the passage mainly serves to

A) express concern about the limitations of a material.
B) identify a hurdle that must be overcome.
C) make a prediction about the effective use of certain devices.
D) introduce a potential new area of study.

51

According to figure 1, in 2017, the cost of which ofthe following fuels is projected to be closest to the 2009 US average electricity cost shown in figure 2?

A) Natural gas
B) Wind (onshore)
C) Conventional coal
D) Advanced nuclear

52

According to figure 2, in what year is the average cost of solar photovoltaic power projected to be equal to the 2009 US average electricity cost?

A) 2018
B) 2020
C) 2025
D) 2027

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section.

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Writing and Language Test

35 MINUTES, 44 QUESTIONS

Turn to Section 2 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage below is accompanied by a number of questions. For some questions, you will consider how the passage might be revised to improve the expression of ideas. For other questions, you will consider how the passage might be edited to correct errors in sentence structure, usage, or punctuation. A passage or a question may be accompanied by one or more graphics (such as a table or graph) that you will consider as you make revising and editing decisions.

Some questions will direct you to an underlined portion of a passage. Other questions willdirect you to a location in a passage or ask you to think about the passage as a whole.

After reading each passage, choose the answer to each question that most effectively improves the quality of writing in the passage or that makes the passage conform to the conventions of standard written English. Many questions include a "NO CHANGE" option.Choose that option if you think the best choice is to leave the relevant portion of the passage as it is.

Questions 1-11 are based on the following passage.

A Necessary Resource for Science

In the winter of 1968, scientists David Schindler and Gregg Brunskill poured nitrates and phosphates into Lake **1** 227, this is one of the 58 freshwater bodies thatcompose Canada's remotely located Experimental LakesArea. Schindler and Brunskill were contaminating the water not out of malice but in the name of research.

While deliberately adding chemical compounds to a lake may seem **2** destructive and irresponsible, this methodof experimenting is sometimes the most effective way to influence policy and save the environment from even more damaging pollution.

1

A) NO CHANGE
B) 227. Which is one
C) 227. One
D) 227, one

2

A) NO CHANGE
B) destructive, and irresponsible this method
C) destructive and, irresponsible, this method
D) destructive and irresponsible this method,

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CONTINUE

Schindler and Brunskill were investigating possible causes for the large blooms of blue-green algae, or cyanobacteria, that had been affecting bodies of water such as Lake Erie. 3 In addition to being unsightly andodorous, these algal blooms cause oxygen depletion. Oxygen depletion kills fish and other wildlife in the lakes. Just weeks after the scientists added the nitrates and phosphates, the water in Lake 227 turned bright 4 green. It was thick with: the same type of algal blooms that had plagued Lake Erie.

3

Which choice most effectively combines the underlined sentences?

A) In addition to being unsightly and odorous, these algal blooms cause oxygen depletion: the result being that it kills fish and other wildlife inthe lakes.

B) In addition to being unsightly and odorous, these algal blooms cause oxygen depletion; thealgal blooms cause oxygen depletion that killsfish and other wildlife in the lakes.

C) In addition to being unsightly and odorous, these algal blooms cause oxygen depletion, and oxygen depletion caused by the algal blooms killsfish and other wildlife in the lakes.

D) In addition to being unsightly and odorous, these algal blooms cause oxygen depletion, which kills fish and other wildlife in the lakes.

4

A) NO CHANGE

B) green: it was thick with

C) green. It was thick with—

D) green, it was thick with

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CONTINUE

5 One mission of the Experimental Lakes Area is to conduct research that helps people better understandthreats to the environment. The scientists divided the lake in half by placing a nylon barrier through the narrowest part of its figure-eight shape. In one half of Lake 226, they added phosphates, nitrates, and a source of carbon; in the other, they added just nitrates 6 and a source of carbon was added. Schindler and Brunskill hypothesized that phosphates were responsible for the growth of cyanobacteria. The experiment confirmed theirsuspicions when the half of the lake containing the phosphates 7 was teeming with blue-green algae.

5

Which choice provides the best transition from the previous paragraph to this one?

A) NO CHANGE
B) The Experimental Lakes Area is located in a sparsely inhabited region that experiences few effects of human and industrial activity.
C) To isolate the cause of the algae, Schindler and Brunskill performed another experiment, this time using Lake 226.
D) The process by which water becomes enrichedby dissolved nutrients, such as phosphates, iscalled eutrophication.

6

A) NO CHANGE
B) and a source of carbon.
C) plus also a source of carbon.
D) but also adding a source of carbon.

7

A) NO CHANGE
B) were teeming
C) are teeming
D) teems

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CONTINUE

Schindler and Brunskill's findings were 8 shown off by the journal *Science*. The research demonstrated a clear correlation between introducing phosphates and the growth of blue-green algae. 9 For example, legislators in Canada passed laws banning phosphates in laundry detergents, which had been entering the water supply. 10

8

A) NO CHANGE
B) put in the spotlight of
C) published in
D) put into

9

A) NO CHANGE
B) Similarly,
C) However,
D) Subsequently,

10

At this point, the writer wants to add a second policy outcome of the research described. Which choice best accomplishes this goal?

A) Lake 226 continued to develop blooms of blue-green algae for eight consecutive years after the experiment took place.
B) In the United States, many individual states have also adopted legislation to eliminate, or at least reduce, phosphorous content in laundry detergents.
C) In 1974, Schindler initiated a study of the effects of acid rain, using Lake 223 to examine how sulfuric acid altered aquatic ecosystems.
D) Aerial photos of the lakes taken before and during algal blooms helped convey the effects of phosphates in water to the public.

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CONTINUE

Experiments like these can help people understand the unintended consequences of using certain household products. 11 Of course, regulating the use of certain chemical compounds can be a controversial issue. Selectively establishing remote study locations, such as the Experimental Lakes Area, can provide scientists with opportunities to safely conduct controlled research. This research can generate evidence solid enough to persuade policy makers to take action in favor of protecting the larger environment.

11

Which choice most effectively anticipates and addresses a relevant counterargument to the argument in favor of the types of experiments described in the passage?

A) NO CHANGE

B) Many companies now offer phosphate-free alternatives for household cleaning products.

C) Obviously, scientists should not be allowed to randomly perform experiments on just any bodyof water.

D) Phosphates are sometimes used in agricultural fertilizers, in addition to being used in cleaning products.

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CONTINUE

Questions 12-22 are based on the following passage.

A Little to the Left, but Not Too Much!

Italy's Tower of Pisa has been leaning southward since the initial **12** stages of it's construction over 800 years ago. **13** Indeed, if the tower's construction had not taken two centuries and involved significant breaks due to war and civil unrest, which allowed the ground beneath the tower to settle, the tower would likely have collapsed before it was completed.

12

A) NO CHANGE
B) stage's of its'
C) stage's of it's
D) stages of its

13

A) NO CHANGE
B) Therefore,
C) Nevertheless,
D) However,

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CONTINUE

Luckily, the tower survived, and its tilt has made it an Italian 14 icon, it attracts visitors from all over who flock to Pisa to see one of the greatest architectural 15 weirdnesses in the world. 16 By the late twentieth century, the angle of the tower's tilt had reached an astonishing 5.5 degrees; in 17 1990, Italy's government closed the tower to visitors and appointed a committee to find a way to save it.

14

A) NO CHANGE
B) icon, attracting
C) icon, its attracting
D) icon; attracting

15

A) NO CHANGE
B) deviations
C) oddities
D) abnormalities

16

At this point, the writer is considering adding the following sentence.

> Unfortunately, the tower's tilt has steadily increased over the centuries, placing the structure in danger of collapse.

Should the writer make this addition here?

A) Yes, because it provides an important restatement of the main claim in the previous sentence.
B) Yes, because it establishes an important shift in emphasis in the paragraph's discussion about the tower's tilt.
C) No, because it interrupts the paragraph's discussion with irrelevant information.
D) No, because it repeats information that is already presented in the first paragraph.

17

A) NO CHANGE
B) 1990, Italy's government, closed
C) 1990 Italy's government, closed,
D) 1990: Italy's government closed

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CONTINUE

The committee was charged with saving the tower without ruining its aesthetic, 18 which no one had yet managed to achieve. The committee's first attempt to reduce the angle of the tower's tilt—placing 600 tons of iron ingots (molded pieces of metal) on the tower's northside to create a counterweight—was derided because the bulky weights ruined the tower's appearance. The attempt at a less visible solution—sinking anchors into the ground below the tower—almost caused the tower to fall.

18

Which choice best supports the main point of the paragraph?

A) NO CHANGE

B) although not everyone on the committee agreed completely about what that aesthetic was.

C) which meant somehow preserving the tower's tilt while preventing that tilt from increasing and toppling the tower.

D) which included the pristine white marble finish that has come to be widely associated with the tower's beauty.

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CONTINUE

[1] Enter committee member John Burland, **19** he is a geotechnical engineer from England who saved London's clock tower Big Ben from collapse. [2] Burland began a years-long process of drilling out small amounts of soil from under the tower **20** that took several years to complete and then monitoring the tower's resulting movement. [3] Twice daily, Burland evaluated these movements and made recommendations as to how much soil should be removed in the next drilling. [4] By 2001, almost 77 tons of soil had been removed, and the tower's tilt had decreased by over 1.5 degrees; the ugly iron weights were removed, and the tower was reopened to visitors. [5] Burland **21** advocated using soil extraction: removing small amounts of soil from under the tower's north side, opposite its tilt, to enable gravity to straighten the tower. **22**

The tower's tilt has not increased since, and the committee is confident that the tower will be safe for another 200 years. Burland is now working on a more permanent solution for keeping the tower upright, but he is adamant that the tower never be completely straightened. In an interview with PBS's *Nova*, Burland explained that it is very important "that we don't really change the character of the monument. That would be quite wrong and quite inappropriate."

19

A) NO CHANGE
B) Burland is
C) his being
D) DELETE the underlined portion.

20

A) NO CHANGE
B) —taking several years to complete—
C) that took him several years to complete
D) DELETE the underlined portion.

21

A) NO CHANGE
B) advocated to use
C) advocated the using of
D) advocating to use

22

To make this paragraph most logical, sentence 5 should be

A) placed after sentence 1.
B) placed after sentence 2.
C) placed after sentence 3.
D) DELETED from the paragraph.

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CONTINUE

Questions 23-33 are based on the following passageand supplementary material.

The Physician Assistant Will See You Now

23 The term "paramedics" refers to health care workers who provide routine and clinical services. Whilethe pressures of an aging population, insurance reforms, and health epidemics have increased demand for care, thesupply of physicians is not expected to 24 keep pace.

The Association of American Medical Colleges predicts a shortage of over 90,000 physicians by 2020; by 2025, that number could climb to more than 130,000. In some partsof the country, shortages are already a sad fact of life. A 2009 report by the Bureau of Health Professions notes that although a fifth of the US population lives in rural areas, less than a tenth of US physicians serves that population. Because a traditionalist response to the crisis—25 amping up medical-college enrollments and expanding physician training programs—is too slow andcostly to address the near-term problem, alternatives are being explored. One promising avenue has been greater reliance on physician assistants (PAs).

23

Which choice is the best introduction to the paragraph?

A) NO CHANGE
B) For many Americans, finding a physician is likely to become a growing challenge.
C) Getting treatment for an illness usually requires seeing either a general practitioner or a specialist.
D) Worldwide the costs of health care are increasingat an alarming rate.

24

A) NO CHANGE
B) maintain the tempo.
C) get in line.
D) move along.

25

A) NO CHANGE
B) bolstering
C) arousing
D) revving up

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CONTINUE

26 By virtue of 27 there medical training, PAs can perform many of the jobs traditionally done by doctors, including treating chronic and acute conditions, performing minor 28 surgeries: and prescribing some medications. However, although well 29 compensated earning in 2012 a median annual salary of $90,930, PAs cost health care providers less than do the physicians who

26

At this point, the writer is considering adding the following sentence.

> Several factors argue in favor of such an expanded role.

Should the writer make this addition here?

A) Yes, because it introduces a counterargument for balance.
B) Yes, because it frames the points that the paragraph will examine.
C) No, because it does not specify the education required to be a PA.
D) No, because it presents information that is only tangential to the main argument.

27

A) NO CHANGE
B) they're
C) their
D) his or her

28

A) NO CHANGE
B) surgeries; and
C) surgeries, and,
D) surgeries, and

29

A) NO CHANGE
B) compensated (earning in 2012 a median annual salary of $90,930),
C) compensated, earning in 2012 a median annual salary of $90,930
D) compensated: earning in 2012 a median annual salary of $90,930,

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CONTINUE

might otherwise undertake these tasks. Moreover, the training period for PAs is markedly shorter than **30** those for physicians—two to three years versus the seven to eleven required for physicians.

Physician assistants already offer vital primary care in many locations. Some 90,000 PAs were employed nationwide in 2012. Over and above their value in partially compensating for the general physician shortage has been their extraordinary contribution to rural health care. A recent review of the scholarly literature by Texas researchers found that PAs lend cost-efficient, widely appreciated services in underserved areas. **31** In addition, rural-based PAs often provide a broader spectrum of such services than do their urban and suburban counterparts, possibly as a consequence of the limited pool of rural-based physicians.

30

A) NO CHANGE
B) that compared with
C) that for
D) DELETE the underlined portion.

31

A) NO CHANGE
B) Thus,
C) Despite this,
D) On the other hand,

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CONTINUE

Increasingly, PAs and other such medical practitioners have become a critical complement to physicians. A 2013 RAND Corporation report estimates that while the number of primary care physicians will increase slowly from 2010 to 2025, the number of physician assistants and nurse-practitioners in primary care will grow at much faster rates. 32 Both by merit and from necessity, PAs are likely to greet more 33 patience than ever before.

Supply of Physicians, Physician Assistants, and Nurse-Practitioners in Primary Care Clinical Practice in 2010 and 2025

	2010		2025 (predicted)	
Provider type	Number	Percent of total	Number	Percent of total
Physicians	210,000	71	216,000	60
Physician assistants	30,000	10	42,000	12
Nurse-practitioners	56,000	19	103,000	28
Total	296,000	100	361,000	100

Adapted from David I. Auerbach et al., "Nurse-Managed Health Centers and Patient-Centered Medical Homes Could Mitigate Expected Primary Care Physician Shortage." ©2013 by Project HOPE: The People-to-PeopleHealth Foundation, Inc.

32

At this point, the writer is considering adding the following sentence.

> In fact, according to the data presented in the table, physician assistants will likely outnumberphysicians by 2025.

Should the writer make this addition here?

A) Yes, because it provides additional support for the main point of the paragraph.

B) Yes, because it addresses a possible counterargument to the writer's main claim.

C) No, because it is not an accurate interpretationof the data.

D) No, because it introduces irrelevant information that interrupts the flow of the passage.

33

A) NO CHANGE

B) patience, than

C) patients then

D) patients than

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CONTINUE

Questions 34-44 are based on the following passage.

Gold into Silver: The "Reverse Alchemy" of Superhero Comics History

34 Popular film franchises are often "rebooted" inan effort to make their characters and stories fresh and relevant for new audiences. Superhero comic books areperiodically reworked to try to increase their appeal to contemporary readers. This practice is almost as 35 elderly as the medium itself and has in large part established the "ages" that compose comic book history. The shift from the Golden to the Silver Age is probably the most successful 36 example: of publishers responding to changing times and tastes.

34

Which choice most effectively combines the underlined sentences?

A) In an effort to make their characters and stories fresh and relevant for new audiences, popular film franchises, which are often "rebooted," are similar to superhero comic books, which are periodically reworked to try to increase their appeal to contemporary readers.

B) Just as popular film franchises are often "rebooted" in an effort to make their characters and stories fresh and relevant for new audiences, superhero comic books are periodically reworked to try to increase their appeal to contemporary readers.

C) Superhero comic books are periodically reworked to try to increase their appeal to contemporary readers, while popular film franchises are often "rebooted" in an effort to make their characters and stories fresh and relevant for new audiences.

D) Superhero comic books are much like popular film franchises in being often "rebooted" in an effort to make their characters and stories fresh and relevant for new audiences and periodically reworked to try to increase their appeal to contemporary readers.

35

A) NO CHANGE

B) old

C) mature

D) geriatric

36

A) NO CHANGE

B) example, of publishers

C) example of publishers,

D) example of publishers

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CONTINUE

The start of the first ("Golden") age of comic books is often dated to 1938 with the debut of Superman in *Action Comics* #1. Besides beginning the age, Superman in many respects defined it, becoming the model on which many later superheroes were based. His characterization, as established in *Superman* #1 (1939), was relatively simple. He could "hurdle skyscrapers" and "leap an eighth of a mile"; "run faster than a streamline train"; withstand anything less than a "bursting shell"; and 37 lift a car over his head. Sent to Earth from the "doomed planet" Krypton, he was raised by human foster parents, whose love helped infuse him with an unapologetic desire to "benefit mankind." Admirable but aloof, the Golden Age Superman was arguably more paragon than character, a problem only partially solved by giving him a human alter ego. Other Golden Age superheroes were similarly archetypal: Batman was a crime-fighting millionaire, Wonder Woman a warrior princess from a mythical island.

37

Which choice is most consistent with the previous examples in the sentence?

A) NO CHANGE
B) hold down a regular job as a newspaper reporter.
C) wear a bright blue costume with a flowing red cape.
D) live in the big city of Metropolis instead of the small town where he grew up.

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CONTINUE

By contrast, the second ("Silver") age of comics was marked by characters that, though somewhat simplistic by today's standards, 38 were provided with origin stories often involving scientific experiments gone wrong. In addition to super villains, the new, soon-to-be-iconic characters of the 39 age: Spider-Man, the Fantastic Four, and the Hulk among them—had to cope with mundane, real-life problems, including paying the rent, dealing with family squabbles, and facing anger, loneliness, and ostracism. Their interior lives were richer and their motivations more complex. Although sales remained strong for Golden Age stalwarts Superman and, to a lesser extent, Batman, 40 subsequent decades would show the enduring appeal of these characters.

38

Which choice most effectively sets up the main ideaof the following two sentences?

A) NO CHANGE

B) reflected the increasing conservatism of the United States in the 1950s.

C) engaged in bizarre adventures frequently inspired by science fiction.

D) were more "realistic" than their Golden Age counterparts.

39

A) NO CHANGE

B) age;

C) age,

D) age—

40

paragraph that logically completes the discussion ofthe Silver Age and provides an effective transition into the next paragraph. Which choice best accomplishes these goals?

A) NO CHANGE

B) the distinctions between later stages of comic book history are less well defined than the one between the Golden and Silver Ages.

C) readers increasingly gravitated to the upstarts asthe 1960s and the Silver Age drew to a close.

D) these characters themselves underwent significant changes over the course of the Silver Age.

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CONTINUE

More transformations would take place in the medium as the Silver Age gave way to the Bronze and Modern (and possibly Postmodern) Ages. Such efforts **41** have yielded diminishing returns, as even the complete relaunch of DC **42** Comics' superhero's, line in2011 has failed to arrest the steep two-decade decline of comic book sales. For both commercial and, arguably, creative reasons, **43** then, no transition was more successful than **44** those from the Golden to Silver Age.

41

A) NO CHANGE
B) would have yielded
C) were yielding
D) will yield

42

A) NO CHANGE
B) Comic's superhero's
C) Comics superhero's
D) Comics' superhero

43

A) NO CHANGE
B) however,
C) nevertheless,
D) yet,

44

A) NO CHANGE
B) these
C) that
D) DELETE the underlined portion.

STOP

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38
CONTINUE

No Test Material On This Page

PracticeTest #5

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K2-5MSA07

Test begins on the next page.

Reading Test

65 MINUTES, 52 QUESTIONS

Turn to Section 1 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage or pair of passages below is followed by a number of questions. After readingeach passage or pair, choose the best answer to each question based on what is stated or implied in the passage or passages and in any accompanying graphics (such as a table orgraph).

Questions 1-10 are based on the followingpassage.

This passage is adapted from George Eliot, *Silas Marner*. Originally published in 1861. Silas was a weaver and a notorious miser, but then the gold he had hoarded was stolen. Shortly after, Silas adopted a young child, Eppie, thedaughter of an impoverished woman who had died suddenly.

Unlike the gold which needed nothing, and must be worshipped in close-locked solitude—which was hidden away from the daylight, was deaf to the song of birds, and started to no human tones—Eppie was a creature of endless claims and ever-growing desires, seeking and loving sunshine, and living sounds, and living movements; making trial of everything, with trust in new joy, and stirring the human kindness in all eyes that looked on her. The gold had kept his thoughts in an ever-repeated circle, leading to nothing beyond itself; but Eppie was an object compacted of changes and hopes that forced his thoughts onward, and carried them far away from their old eager pacing towards the same blank limit—carried them away to the new things that would come with the coming years, when Eppie would have learned to understand how her father Silas cared for her; and made him look for images of that time in the ties and charities that bound together the families of his neighbors. The gold had asked that he should sit weaving longer and longer, deafened and blinded more and more to all things except the monotony of his loom and the repetition of his web; but Eppie called him away from his weaving, and made him think all its pauses a holiday, reawakening his senses with her fresh life, even to the old winter-flies that came crawling forth in the early spring sunshine, and warming him into joy because *she* had joy.

And when the sunshine grew strong and lasting, so that the buttercups were thick in the meadows, Silas might be seen in the sunny mid-day, or in the late afternoon when the shadows were lengthening under the hedgerows, strolling out with uncovered head to carry Eppie beyond the Stone-pits to where the flowers grew, till they reached some favorite bank where he could sit down, while Eppie toddled to pluck the flowers, and make remarks to the winged things that murmured happily above the bright petals, calling "Dad-dad's" attention continually by bringing him the flowers. Then she would turn her ear to some sudden bird-note, and Silas learned to please her by making signs of hushed stillness, that they might listen for the note to come again: so that when it came, she set up her small back and laughed with gurgling triumph. Sitting on the banks in this way, Silas began to look for the once familiar herbs again; and as the leaves, with their unchanged outline and markings, lay on his palm, there was a sense of crowding remembrances from which he turned away timidly, taking refuge in Eppie's little world, that lay lightly on his enfeebled spirit.

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CONTINUE

As the child's mind was growing into knowledge,his mind was growing into memory: as her life unfolded, his soul, long stupefied in a cold narrow prison, was unfolding too, and trembling gradually into full consciousness.

It was an influence which must gather force with every new year: the tones that stirred Silas' heart grew articulate, and called for more distinct answers; shapes and sounds grew clearer for Eppie's eyes and ears, and there was more that "Dad-dad" was imperatively required to notice and account for. Also, by the time Eppie was three years old, she developed a fine capacity for mischief, and for devising ingenious ways of being troublesome, which found much exercise, not only for Silas' patience, but for his watchfulness and penetration. Sorely was poor Silas puzzled on such occasions by the incompatible demands of love.

1

Which choice best describes a major theme of the passage?

A) The corrupting influence of a materialistic society

B) The moral purity of young children

C) The bittersweet brevity of childhood naïveté

D) The restorative power of parental love

2

As compared with Silas's gold, Eppie is portrayed ashaving more

A) vitality.

B) durability.

C) protection.

D) self–sufficiency.

3

Which statement best describes a technique the narrator uses to represent Silas's character before headopted Eppie?

A) The narrator emphasizes Silas's former obsession with wealth by depicting his gold as requiring certain behaviors on his part.

B) The narrator underscores Silas's former greed by describing his gold as seeming to reproduce on its own.

C) The narrator hints at Silas's former antisocial attitude by contrasting his present behavior toward his neighbors with his past behavior toward them.

D) The narrator demonstrates Silas's former lack of self-awareness by implying that he is unable to recall life before Eppie.

4

The narrator uses the phrase "making trial of everything" (line 7) to present Eppie as

A) friendly.

B) curious.

C) disobedient.

D) judgmental.

5

According to the narrator, one consequence of Silas adopting Eppie is that he

A) has renounced all desire for money.

B) better understands his place in nature.

C) seems more accepting of help from others.

D) looks forward to a different kind of future.

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CONTINUE

6

Which choice provides the best evidence for the answer to the previous question?

A) Lines 9-11 ("The gold . . . itself")
B) Lines 11-16 ("but Eppie . . . years")
C) Lines 41-43 ("Then . . . stillness")
D) Lines 61-63 ("shapes . . . for")

7

What function does the second paragraph (lines 30-52) serve in the passage as a whole?

A) It presents the particular moment at which Silas realized that Eppie was changing him.
B) It highlights Silas's love for Eppie by depictingthe sacrifices that he makes for her.
C) It illustrates the effect that Eppie has on Silas by describing the interaction between them.
D) It reveals a significant alteration in the relationship between Silas and Eppie.

8

In describing the relationship between Eppie and Silas, the narrator draws a connection between Eppie's

A) physical vulnerability and Silas's emotionalfragility.
B) expanding awareness and Silas's increasing engagement with life.
C) boundless energy and Silas's insatiable desire for wealth.
D) physical growth and Silas's painful perception ofhis own mortality.

9

Which choice provides the best evidence for the answer to the previous question?

A) Lines 1-9 ("Unlike . . . her")
B) Lines 30-41 ("And when . . . flowers")
C) Lines 46-48 ("Sitting . . . again")
D) Lines 53-57 ("As the . . . consciousness")

10

As used in line 65, "fine" most nearly means

A) acceptable.
B) delicate.
C) ornate.
D) keen.

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CONTINUE

Questions 11-21 are based on the followingpassage and supplementary material.

This passage is adapted from David Rotman, "How Technology Is Destroying Jobs." ©2013 by MIT TechnologyReview.

MIT business scholars Erik Brynjolfsson and Andrew McAfee have argued that impressive advances in computer technology—from improved industrial robotics to automated translation services—are largely behind the sluggish employment growth of the last 10 to 15 years. Even more ominous for workers, they foresee dismal prospects for many types of jobs as these powerful new technologies are increasingly adopted not only in manufacturing, clerical, and retail work but in professions such as law, financial services, education, and medicine.

That robots, automation, and software can replace people might seem obvious to anyone who's worked in automotive manufacturing or as a travel agent. But Brynjolfsson and McAfee's claim is more troubling and controversial. They believe that rapid technological change has been destroying jobs faster than it is creating them, contributing to the stagnation of median income and the growth of inequality in the United States. And, they suspect, something similar is happening in other technologically advanced countries.

As evidence, Brynjolfsson and McAfee point to a chart that only an economist could love. In economics, productivity—the amount of economic value created for a given unit of input, such as an hour of labor—is a crucial indicator of growth and wealth creation. It is a measure of progress. On the chart Brynjolfsson likes to show, separate lines represent productivity and total employment in the United States. For years after World War II, the two lines closely tracked each other, with increases in jobs corresponding to increases in productivity. The pattern is clear: as businesses generated more value from their workers, the country as a whole became richer, which fueled more economic activity and created even more jobs. Then, beginning in 2000, the lines diverge; productivity continues to rise robustly, but employment suddenly wilts. By 2011, a significant gap appears between the two lines, showing economic growth with no parallel increase in job creation. Brynjolfsson and McAfee call it the"great decoupling." And Brynjolfsson says he is confident that technology is behind both the healthy growth in productivity and the weak growth in jobs.

It's a startling assertion because it threatens the faith that many economists place in technological progress. Brynjolfsson and McAfee still believe that technology boosts productivity and makes societies wealthier, but they think that it can also have a dark side: technological progress is eliminating the need for many types of jobs and leaving the typical worker worse off than before. Brynjolfsson can point to a second chart indicating that median income is failing to rise even as the gross domestic product soars. "It's the great paradox of our era," he says. "Productivity is at record levels, innovation has never been faster, and yet at the same time, we have a falling median income and we have fewer jobs. People are falling behind because technology is advancing so fast and our skills and organizations aren't keeping up."

While technological changes can be painful for workers whose skills no longer match the needs of employers, Lawrence Katz, a Harvard economist, says that no historical pattern shows these shifts leading to a net decrease in jobs over an extended period. Katz has done extensive research on how technological advances have affected jobs over the last few centuries—describing, for example, how highly skilled artisans in the mid-19th century were displaced by lower-skilled workers in factories. While it can take decades for workers to acquire the expertise needed for new types of employment, he says, "we never have run out of jobs. There is no long-term trend of eliminating work for people. Over the long term, employment rates are fairly stable. People have always been able to create new jobs. People come up with new things to do."

Still, Katz doesn't dismiss the notion that there is something different about today's digital technologies—something that could affect an even broader range of work. The question, he says, is whether economic history will serve as a useful

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CONTINUE

85 guide. Will the job disruptions caused by technology be temporary as the workforce adapts, or will we seea science-fiction scenario in which automated processes and robots with superhuman skills take over a broad swath of human tasks? Though Katz
90 expects the historical pattern to hold, it is "genuinelya question," he says. "If technology disrupts enough, who knows what will happen?"

Figure 1

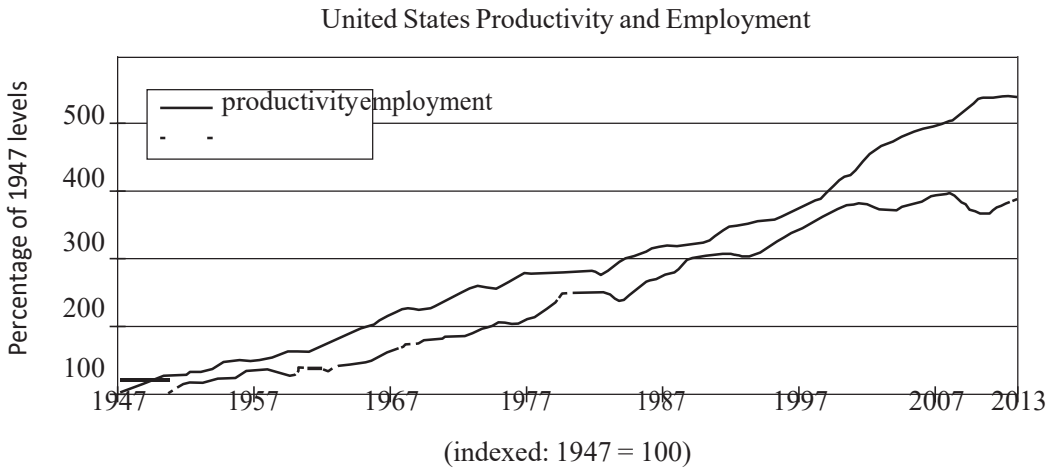
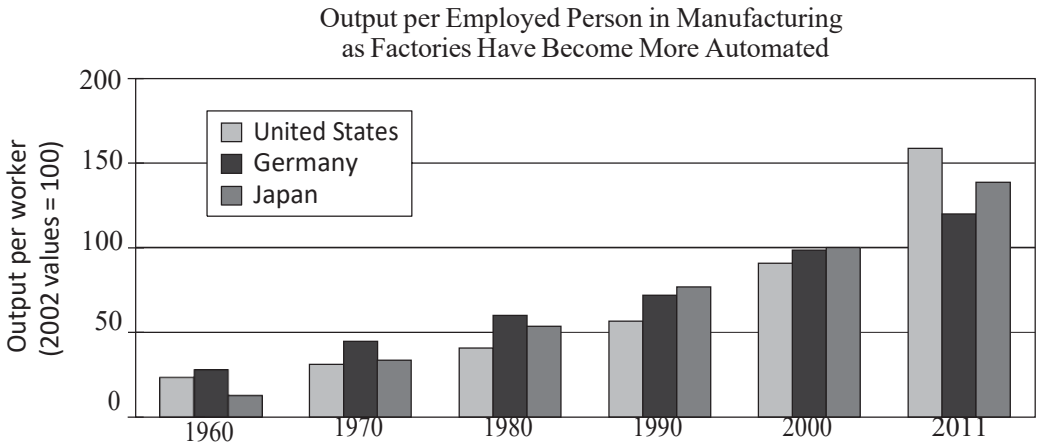


Figure 2



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CONTINUE

11

The main purpose of the passage is to

A) examine the role of technology in workers' lives during the last century.

B) advocate for better technology to enhance workplace conditions.

C) argue for changes in how technology is deployed in the workplace.

D) assess the impact of advancements in technology on overall job growth.

12

According to Brynjolfsson and McAfee, advancements in technology since approximately the year 2000 have resulted in

A) low job growth in the United States.

B) global workplace changes.

C) more skilled laborers in the United States.

D) no global creation of new jobs.

13

Which choice provides the best evidence for the answer to the previous question?

A) Lines 1-6 ("MIT . . . years")

B) Lines 13-15 ("That . . . agent")

C) Lines 21-23 ("And . . . countries")

D) Lines 35-38 ("as businesses . . . jobs")

14

The primary purpose of lines 26-28 ("the amount . . . labor") is to

A) describe a process.

B) highlight a dilemma.

C) clarify a claim.

D) explain a term.

15

As used in line 35, "clear" most nearly means

A) pure.

B) keen.

C) untroubled.

D) unmistakable.

16

Which of the following best characterizes Katz'sattitude toward "today's digital technologies" (lines 81-82)?

A) He is alarmed about countries' increasing reliance on them.

B) He is unconcerned about their effect on the economy.

C) He is uncertain how they might affect job growth.

D) He is optimistic that they will spur job creation to a degree not seen since the mid-nineteenth century.

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CONTINUE

17

Which choice provides the best evidence for the answer to the previous question?

A) Lines 68-72 ("Katz . . . factories")
B) Lines 73-75 ("While . . . jobs")
C) Line 79 ("People come . . . do")
D) Lines 91-92 ("If . . . happen")

18

As used in line 83, "range" most nearly means

A) region.
B) scope.
C) distance.
D) position.

19

According to figure 1, which of the following yearsshowed the widest gap between percentages of productivity and employment?

A) 1987
B) 1997
C) 2007
D) 2013

20

Which statement is supported by figure 2?

A) The country with the greatest growth in output per manufacturing worker from 1960 to 1990 was Germany.
B) Japan experienced its smallest increase in output per manufacturing worker from 2000 to 2011.
C) Each of the three countries experienced an increase in its output per manufacturing worker from 1960 to 2011.
D) Of the three countries, the United States had the greatest output per manufacturing worker for each of the years shown.

21

Which additional information, if presented in figure 2, would be most useful in evaluating the statement in lines 57-60 ("Productivity . . . jobs")?

A) The median income of employees as it compares across all three countries in a single year
B) The number of people employed in factories from 1960 to 2011
C) The types of organizations at which output of employed persons was measured
D) The kinds of manufacturing tasks most frequently taken over by machines

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Questions 22-31 are based on the followingpassage.

This passage is adapted from Patricia Waldron, "Why BirdsFly in a V Formation." ©2014 by American Association for the Advancement of Science.

Anyone watching the autumn sky knows that migrating birds fly in a V formation, but scientists have long debated why. A new study of ibises finds that these big-winged birds carefully position their wingtips and sync their flapping, presumably to catch the preceding bird's updraft—and save energy during flight.

There are two reasons birds might fly in a V formation: It may make flight easier, or they're simply following the leader. Squadrons of planes can save fuel by flying in a V formation, and many scientists suspect that migrating birds do the same. Models that treated flapping birds like fixed-wing airplanes estimate that they save energy by drafting off each other, but currents created by airplanes are far more stable than the oscillating eddies coming offof a bird. "Air gets pretty unpredictable behind a flapping wing," says James Usherwood, a locomotor biomechanist at the Royal Veterinary College at the University of London in Hatfield, where the research took place.

The study, published in *Nature*, took advantage of an existing project to reintroduce endangered northern bald ibises (*Geronticus eremita*) to Europe. Scientists used a microlight plane to show hand-raised birds their ancestral migration route from Austria to Italy. A flock of 14 juveniles carried data loggers specially built by Usherwood and his lab. The device's GPS determined each bird's flight position to within 30 cm, and an accelerometer showed the timing of the wing flaps.

Just as aerodynamic estimates would predict, the birds positioned themselves to fly just behind and to the side of the bird in front, timing their wing beats to catch the uplifting eddies. When a bird flew directly behind another, the timing of the flapping reversed so that it could minimize the effects of the downdraft coming off the back of the bird's body. "We didn't think this was possible," Usherwood says, considering that the feat requires careful flight and incredible awareness of one's neighbors. "Perhaps these big V formation birds can be thought of quite like an airplane with wings that go up and down."

The findings likely apply to other long-winged birds, such as pelicans, storks, and geese, Usherwood says. Smaller birds create more complex wakes that would make drafting too difficult. The researchers did not attempt to calculate the bird's energy savings because the necessary physiological measurements would be too invasive for an endangered species. Previous studies estimate that birds can use 20 percent to 30 percent less energy while flying in a V.

"From a behavioral perspective it's really a breakthrough," says David Lentink, a mechanical engineer at Stanford University in Palo Alto, California, who was not involved in the work. "Showing that birds care about syncing their wing beats is definitely an important insight that we didn't have before."

Scientists do not know how the birds find that aerodynamic sweet spot, but they suspect thatthe animals align themselves either by sight or by sensing air currents through their feathers. Alternatively, they may move around until they find the location with the least resistance. In future studies, the researchers will switch to more commonbirds, such as pigeons or geese. They plan to investigate how the animals decide who sets the course and the pace, and whether a mistake made by the leader can ripple through the rest of the flock to cause traffic jams.

"It's a pretty impressive piece of work as it is, but it does suggest that there's a lot more to learn," says Ty Hedrick, a biologist at the University of North Carolina, Chapel Hill, who studies flight aerodynamics in birds and insects. However they do it, he says, "birds are awfully good hang-glider pilots."

22

The main purpose of the passage is to

A) describe how squadrons of planes can save fuel by flying in a V formation.

B) discuss the effects of downdrafts on birds and airplanes.

C) explain research conducted to study why some birds fly in a V formation.

D) illustrate how birds sense air currents through their feathers.

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CONTINUE

23

The author includes the quotation "Air gets pretty unpredictable behind a flapping wing" (lines 17-18) to

A) explain that the current created by a bird differs from that of an airplane.

B) stress the amount of control exerted by birds flying in a V formation.

C) indicate that wind movement is continuously changing.

D) emphasize that the flapping of a bird's wings is powerful.

24

What can reasonably be inferred about the reason Usherwood used northern bald ibises as the subjectsof his study?

A) The ibises were well acquainted with their migration route.

B) Usherwood knew the ibises were familiar with carrying data loggers during migration.

C) The ibises have a body design that is similar to that of a modern airplane.

D) The ibises were easily accessible for Usherwood and his team to track and observe.

25

Which choice provides the best evidence for the answer to the previous question?

A) Lines 3-7 ("A new . . . flight")

B) Lines 10-12 ("Squadrons . . . same")

C) Lines 22-24 ("The study . . . Europe")

D) Lines 29-31 ("The device's . . . flaps")

26

What is the most likely reason the author includes the 30 cm measurement in line 30?

A) To demonstrate the accuracy with which the data loggers collected the data

B) To present recorded data about how far an ibis flies between successive wing flaps

C) To provide the wingspan length of a juvenile ibis

D) To show how far behind the microlight plane each ibis flew

27

What does the author imply about pelicans, storks, and geese flying in a V formation?

A) They communicate with each other in the same way as do ibises.

B) They have the same migration routes as those of ibises.

C) They create a similar wake to that of ibises.

D) They expend more energy than do ibises.

28

Which choice provides the best evidence for the answer to the previous question?

A) Lines 35-38 ("When . . . body")

B) Lines 47-48 ("Smaller . . . difficult")

C) Lines 52-54 ("Previous . . . a V")

D) Lines 66-67 ("Alternatively . . . resistance")

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CONTINUE

29

What is a main idea of the seventh paragraph (lines 62-73)?

A) Different types of hierarchies exist in each flock of birds.

B) Mistakes can happen when long-winged birds create a V formation.

C) Future research will help scientists to better understand V formations.

D) Long-winged birds watch the lead bird closely to keep a V formation intact.

30

The author uses the phrase "aerodynamic sweet spot"in line 63 most likely to

A) describe how the proper structural design of an airplane helps to save fuel.

B) show that flying can be an exhilarating experience.

C) describe the birds' synchronized wing movement.

D) suggest that a certain position in a V formation has the least amount of wind resistance.

31

As used in line 72, "ripple" most nearly means

A) fluctuate.

B) spread.

C) wave.

D) undulate.

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Questions 32-41 are based on the followingpassages.

Passage 1 is adapted from Alexis de Tocqueville, *Democracy in America, Volume 2*. Originally published in 1840. Passage 2is adapted from Harriet Taylor Mill, "Enfranchisement of Women." Originally published in 1851. As United States and European societies grew increasingly democratic during thenineteenth century, debates arose about whether freedoms enjoyed by men should be extended to women as well.

Passage 1

I have shown how democracy destroys or modifies the different inequalities which originate in society; but is this all? or does it not ultimately affect that great inequality of man and woman which has seemed, up to the present day, to be eternally basedin human nature? I believe that the social changes which bring nearer to the same level the father and son, the master and servant, and superiors and inferiors generally speaking, will raise woman and make her more and more the equal of man. But here, more than ever, I feel the necessity of making myself clearly understood; for there is no subject on which the coarse and lawless fancies of our age have taken a freer range.

There are people in Europe who, confounding together the different characteristics of the sexes, would make of man and woman beings not only equal but alike. They would give to both the same functions, impose on both the same duties, and grant to both the same rights; they would mix them in all things—their occupations, their pleasures, their business. It may readily be conceived, that by thus attempting to make one sex equal to the other, bothare degraded; and from so preposterous a medley of the works of nature nothing could ever result but weak men and disorderly women.

It is not thus that the Americans understand that species of democratic equality which may be established between the sexes. They admit, that as nature has appointed such wide differences between the physical and moral constitution of man and woman, her manifest design was to give a distinct employment to their various faculties; and they hold that improvement does not consist in making beings so dissimilar do pretty nearly the same things, but in getting each of them to fulfill their respective tasks in the best possible manner. The Americans have applied to the sexes the great principle of political economy which governs the manufactures of our age, by carefully dividing the duties of man from those of woman, in order that the great work of society may be the better carried on.

Passage 2

As society was constituted until the last few generations, inequality was its very basis; association grounded on equal rights scarcely existed; to be equals was to be enemies; two persons could hardlycoöperate in anything, or meet in any amicable relation, without the law's appointing that one of them should be the superior of the other.

Mankind have outgrown this state, and all things now tend to substitute, as the general principle of human relations, a just equality, instead of the dominion of the strongest. But of all relations, that between men and women, being the nearest and most intimate, and connected with the greatest number of strong emotions, was sure to be the last to throw off the old rule, and receive the new; for, in proportion to the strength of a feeling is the tenacity with which it clings to the forms and circumstances with which it has even accidentally become associated. . . .

. . . The proper sphere for all human beings is the largest and highest which they are able to attain to. What this is, cannot be ascertained without complete liberty of choice ..... Let every occupation be open to all, without favor or discouragement to any, and employments will fall into the hands of those men or women who are found by experience to be most capable of worthily exercising them. There need be no fear that women will take out of the hands of men any occupation which men perform better than they. Each individual will prove his or her capacities, in theonly way in which capacities can be proved,—by trial; and the world will have the benefit of the best faculties of all its inhabitants. But to interfere beforehand by an arbitrary limit, and declare that whatever be the genius, talent, energy, or force of

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CONTINUE

mind, of an individual of a certain sex or class, those faculties shall not be exerted, or shall be exerted only in some few of the many modes in which others are permitted to use theirs, is not only an injustice to the individual, and a detriment to society, which loses what it can ill spare, but is also the most effectual way of providing that, in the sex or class so fettered, the qualities which are not permitted to be exercisedshall not exist.

32

As used in line 9, "raise" most nearly means

A) increase.
B) cultivate.
C) nurture.
D) elevate.

33

In Passage 1, Tocqueville implies that treatment of men and women as identical in nature would have which consequence?

A) Neither sex would feel oppressed.
B) Both sexes would be greatly harmed.
C) Men would try to reclaim their lost authority.
D) Men and women would have privileges they do not need.

34

Which choice provides the best evidence for the answer to the previous question?

A) Lines 15-18 ("There . . . alike")
B) Lines 18-20 ("They . . . rights")
C) Lines 22-24 ("It may . . . degraded")
D) Lines 27-29 ("It is . . . sexes")

35

As used in line 53, "dominion" most nearly means

A) omnipotence.
B) supremacy.
C) ownership.
D) territory.

36

In Passage 2, Mill most strongly suggests that gender roles are resistant to change because they

A) have long served as the basis for the formal organization of society.
B) are matters of deeply entrenched tradition.
C) can be influenced by legislative reforms only indirectly.
D) benefit the groups and institutions currently in power.

37

Which choice provides the best evidence for the answer to the previous question?

A) Lines 43-44 ("As society . . . basis")
B) Lines 46-49 ("two . . . other")
C) Lines 58-61 ("in proportion . . . associated")
D) Lines 67-69 ("employments . . . them")

38

Both authors would most likely agree that the changes in gender roles that they describe would be

A) part of a broad social shift toward greater equality.
B) unlikely to provide benefits that outweigh their costs.
C) inevitable given the economic advantages of gender equality.
D) at odds with the principles of American democracy.

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CONTINUE

39

Tocqueville in Passage 1 would most likely characterize the position taken by Mill in lines 65-69 in Passage 2 ("Let . . . them") as

A) less radical about gender roles than it might initially seem.

B) persuasive in the abstract but difficult to implement in practice.

C) ill-advised but consistent with a view held by some other advocates of gender equality.

D) compatible with economic progress in the United States but not in Europe.

40

Which choice best describes the ways that the two authors conceive of the individual's proper position in society?

A) Tocqueville believes that an individual's positionshould be defined in important ways by that individual's sex, while Mill believes that an individual's abilities should be the determining factor.

B) Tocqueville believes that an individual's economic class should determine that individual's position, while Mill believes thatclass is not a legitimate consideration.

C) Tocqueville believes that an individual's temperament should determine that individual's position, while Mill believes that temperament should not be a factor in an individual's position.

D) Tocqueville believes that an individual's positionshould be determined by what is most beneficial to society, while Mill believes it should be determined by what an individual finds most rewarding.

41

Based on Passage 2, Mill would most likely say that the application of the "great principle of political economy" (lines 38-39, Passage 1) to gender roles has which effect?

A) It prevents many men and women from developing to their full potential.

B) It makes it difficult for men and women to sympathize with each other.

C) It unintentionally furthers the cause of gender equality.

D) It guarantees that women take occupations that men are better suited to perform.

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CONTINUE

Questions 42-52 are based on the followingpassage and supplementary material.

This passage is adapted from Brian Greene, "How the HiggsBoson Was Found." ©2013 by Smithsonian Institution. The Higgs boson is an elementary particle associated with the Higgs field. Experiments conducted in 2012–2013 tentatively confirmed the existence of the Higgs boson andthus of the Higgs field.

Nearly a half-century ago, Peter Higgs and a handful of other physicists were trying to understand the origin of a basic physical feature: mass. You can think of mass as an object's heft or, a little more precisely, as the resistance it offers to having its motion changed. Push on a freight train (or a feather) to increase its speed, and the resistance you feel reflects its mass. At a microscopic level, the freight train's mass comes from its constituent molecules and atoms, which are themselves built from fundamental particles, electrons and quarks. But where do the masses of these and other fundamental particles come from?

When physicists in the 1960s modeled the behavior of these particles using equations rooted in quantum physics, they encountered a puzzle. If they imagined that the particles were all massless, then each term in the equations clicked into a perfectly symmetric pattern, like the tips of a perfect snowflake. And this symmetry was not just mathematically elegant. It explained patterns evidentin the experimental data. But—and here's the puzzle—physicists knew that the particles did have mass, and when they modified the equations to account for this fact, the mathematical harmony was spoiled. The equations became complex and unwieldy and, worse still, inconsistent.

What to do? Here's the idea put forward by Higgs. Don't shove the particles' masses down the throat of the beautiful equations. Instead, keep the equations pristine and symmetric, but consider them operating within a peculiar environment. Imagine that all of space is uniformly filled with an invisible substance—now called the Higgs field—that exerts a drag force on particles when they accelerate through it. Push on a fundamental particle in an effort to increase its speed and, according to Higgs, you would feel this drag force as a resistance. Justifiably, you would interpret the resistance as the particle's mass. For a mental toehold, think of a ping-pong ball submerged in water. When you push on the ping-pong ball, it will feel much more massive than it does outside of water. Its interaction with the watery environment has the effect of endowing it with mass. So with particles submerged in the Higgs field.

In 1964, Higgs submitted a paper to a prominent physics journal in which he formulated this idea mathematically. The paper was rejected. Not becauseit contained a technical error, but because the premise of an invisible something permeating space, interacting with particles to provide their mass, well, it all just seemed like heaps of overwrought speculation. The editors of the journal deemed it "of no obvious relevance to physics."

But Higgs persevered (and his revised paper appeared later that year in another journal), and physicists who took the time to study the proposal gradually realized that his idea was a stroke of genius, one that allowed them to have their cake and eat it too. In Higgs's scheme, the fundamental equations can retain their pristine form because the dirty work of providing the particles' masses is relegated to the environment.

While I wasn't around to witness the initial rejection of Higgs's proposal in 1964 (well, I wasaround, but only barely), I can attest that by the mid-1980s, the assessment had changed. The physics community had, for the most part, fully bought intothe idea that there was a Higgs field permeating space. In fact, in a graduate course I took that covered what's known as the Standard Model of Particle Physics (the quantum equations physicists have assembled to describe the particles of matter and the dominant forces by which they influence each other), the professor presented the Higgs field with such certainty that for a long while I had no idea it had yet to be established experimentally. On occasion, that happens in physics. Mathematical equations can sometimes tell such a convincing tale, they can seemingly radiate reality so strongly, that they become entrenched in the vernacular of working physicists, even before there's data to confirm them.

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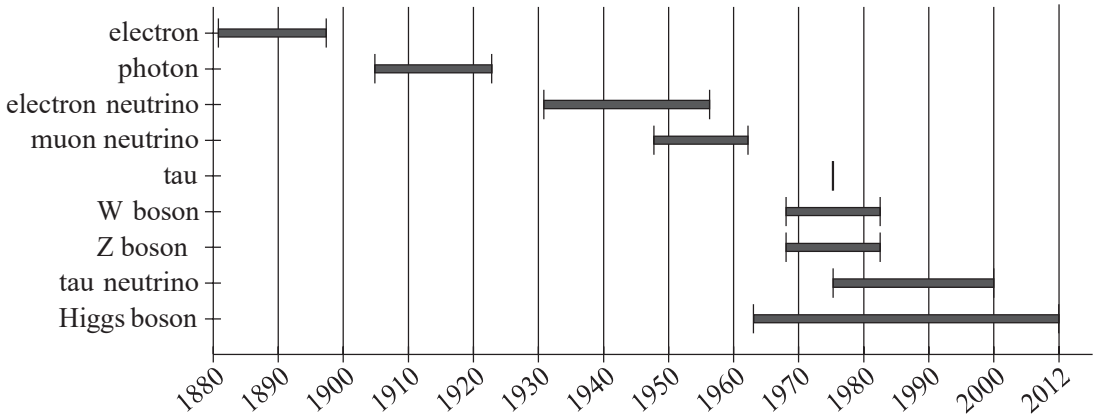
CONTINUE

Years from Introduction of Concept of Particle to Experimental Confirmation



Adapted from the editors of *The Economist*, "Worth the Wait." ©2012 by The Economist Newspaper Limited.

42

Over the course of the passage, the main focusshifts from

A) a technical account of the Higgs field to a description of it aimed at a broad audience.

B) a review of Higgs's work to a contextualization ofthat work within Higgs's era.

C) an explanation of the Higgs field to a discussion of the response to Higgs's theory.

D) an analysis of the Higgs field to a suggestion offuture discoveries that might build upon it.

43

The main purpose of the analogy of the ping-pong ball (line 40) is to

A) popularize a little-known fact.

B) contrast competing scientific theories.

C) criticize a widely accepted explanation.

D) clarify an abstract concept.

44

The author most strongly suggests that the reason the scientific community initially rejected Higgs's idea was that the idea

A) addressed a problem unnoticed by other physicists.

B) only worked if the equations were flawless.

C) rendered accepted theories in physics obsolete.

D) appeared to have little empirical basis.

45

Which choice provides the best evidence for the answer to the previous question?

A) Lines 30-32 ("Instead . . . environment")

B) Lines 46-48 ("In 1964 . . . mathematically")

C) Lines 48-53 ("Not . . . speculation")

D) Lines 67-70 ("The physics . . . space")

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CONTINUE

46

The author notes that one reason Higgs's theory gained acceptance was that it

A) let scientists accept two conditions that had previously seemed irreconcilable.

B) introduced an innovative approach that could be applied to additional problems.

C) answered a question that earlier scientists had not even raised.

D) explained why two distinct phenomena were being misinterpreted as one phenomenon.

47

Which choice provides the best evidence for the answer to the previous question?

A) Lines 36-39 ("Push . . . mass")

B) Lines 43-45 ("Its interaction . . . field")

C) Lines 55-63 ("But . . . environment")

D) Lines 78-83 ("On occasion . . . them")

48

Which statement best describes the technique theauthor uses to advance the main point of the last paragraph?

A) He recounts a personal experience to illustrate a characteristic of the discipline of physics.

B) He describes his own education to show how physics has changed during his career.

C) He provides autobiographical details to demonstrate how Higgs's theory was confirmed.

D) He contrasts the status of Higgs's theory at two time periods to reveal how the details of the theory evolved.

49

As used in line 77, "established" most nearly means

A) validated.

B) founded.

C) introduced.

D) enacted.

50

What purpose does the graph serve in relation to the passage as a whole?

A) It indicates that the scientific community's quick acceptance of the Higgs boson was typical.

B) It places the discussion of the reception of the Higgs boson into a broader scientific context.

C) It demonstrates that the Higgs boson was regarded differently than were other hypothetical particles.

D) It clarifies the ways in which the Higgs bosonrepresented a major discovery.

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CONTINUE

51

Which statement is best supported by the data presented in the graph?

A) The W boson and the Z boson were proposed and experimentally confirmed at about the same time.

B) The Higgs boson was experimentally confirmed more quickly than were most other particles.

C) The tau neutrino was experimentally confirmed at about the same time as the tau.

D) The muon neutrino took longer to experimentally confirm than did the electron neutrino.

52

Based on the graph, the author's depiction of Higgs's theory in the mid-1980s is most analogous to which hypothetical situation?

A) The muon neutrino was widely disputed until being confirmed in the early 1960s.

B) Few physicists in 2012 doubted the reality of the tau neutrino.

C) No physicists prior to 1960 considered the possibility of the W or Z boson.

D) Most physicists in 1940 believed in the existence of the electron neutrino.

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CONTINUE

No Test Material On This Page

Writing and Language Test

35 MINUTES, 44 QUESTIONS

Turn to Section 2 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage below is accompanied by a number of questions. For some questions, you will consider how the passage might be revised to improve the expression of ideas. For other questions, you will consider how the passage might be edited to correct errors in sentence structure, usage, or punctuation. A passage or a question may be accompanied by one or more graphics (such as a table or graph) that you will consider as you make revising and editing decisions.

Some questions will direct you to an underlined portion of a passage. Other questions willdirect you to a location in a passage or ask you to think about the passage as a whole.

After reading each passage, choose the answer to each question that most effectively improves the quality of writing in the passage or that makes the passage conform to the conventions of standard written English. Many questions include a "NO CHANGE" option.Choose that option if you think the best choice is to leave the relevant portion of the passage as it is.

Questions 1-11 are based on the following passage.

NASA: A Space Program with Down-to-Earth Benefits

The National Aeronautics and Space Administration (NASA) is a US government agency whose budget is frequently 1 many times contested. Many people thinkof NASA's programs as trivial. In truth, the agency has a widespread positive 2 effect on society by serving as a catalyst for innovation and scientific understanding,

1

A) NO CHANGE
B) oftentimes
C) repeatedly
D) DELETE the underlined portion.

2

A) NO CHANGE
B) affect on
C) effect to
D) affects on

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3 to create jobs, and showing humanity its place within the universe.

In 1958, the program's first year, very few people believed that it was even possible for a manned spacecraftto leave the atmosphere and orbit Earth. But by initiatingand collaborating on projects such as the Apollo Moon missions, the space shuttle program, the Hubble Space 4 Telescope, and unmanned planetary exploration, NASA has continually challenged its scientists and engineers to do things that were previously thought impossible. All along, these NASA projects have 5 greatly increased international cooperation. A short list of inventions 6 elaborated by NASA includes communications satellites, invisible braces, and cordless tools. All these inventions 7 spawns new industries, and with those industries, jobs. NASA also sponsors the Small Business Innovation Research and Small BusinessTechnology Transfer programs, which are specifically designed to support technological development in the private sector.

3

A) NO CHANGE
B) creating jobs,
C) for job creation,
D) the creation of jobs,

4

A) NO CHANGE
B) Telescope; and
C) Telescope and;
D) Telescope and,

5

Which choice most effectively sets up the list of examples that follows in the next sentence?

A) NO CHANGE
B) garnered national publicity for the agency.
C) generated a steady stream of new technology.
D) made a lot of money for the agency.

6

A) NO CHANGE
B) evolved
C) developed
D) progressed

7

A) NO CHANGE
B) spawned
C) has spawned
D) spawning

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CONTINUE

[1] A report by the Space Foundation estimated that NASA contributed $180 billion to the economy in 2005. [2] More than 60 percent of the contribution 8 coming from commercial goods and services created by companies using space-related technology. [3] This translates as excellent returns from an agency that received approximately 17.7 billion in tax dollars in 2014.

[4] This investment by taxpayers enhances not only the national economy but also the United States' competitiveness in the international market.

[5] Moreover, the benefits of NASA funding extend beyond the purely economic, as astrophysicist Neil deGrasse Tyson indicated in his testimony before the US Senate: "For . . . a penny on a dollar—we can transform the country from a sullen, dispirited nation, weary of economic struggle, to one where it has reclaimed its twentieth-century birthright to dream of tomorrow." 9

8

A) NO CHANGE
B) which came
C) to come
D) came

9

To make this paragraph most logical, sentence 1 should be placed

A) where it is now.
B) after sentence 2.
C) after sentence 3.
D) after sentence 4.

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Tyson's expansive vision for the agency hints at another mission of NASA's, illuminated in this observation by Apollo 14 astronaut Edgar Mitchell: "You develop an instant global consciousness, a people orientation, an intense dissatisfaction with the state of theworld, and a compulsion to do something about it."

10 With world population topping seven billion, humanity is in need of some perspective. **11** Therefore, we should continue to support NASA not only for practical reasons but also because it is a necessary vehiclefor increasing our awareness of how we can fulfill our responsibilities to the planet and each other.

10

At this point, the writer is considering adding the following sentence.

> In addition, NASA has facilities in Washington, DC, Florida, Texas, California, and other states.

Should the writer make this addition here?

A) Yes, because it serves as a counterargument to the quotation from astrophysicist Neil deGrasse Tyson.

B) Yes, because it reinforces the passage's point about the importance of NASA's work.

C) No, because it undermines the passage's claim about the economic benefits of NASA's work.

D) No, because it blurs the paragraph's focus by introducing information that does not supportthe paragraph's claim about the importance of NASA's work.

11

A) NO CHANGE

B) Instead,

C) For example,

D) However,

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Questions 12-22 are based on the following passageand supplementary material.

Professional Development: A Shared Responsibility

New theories, 12 new practices too, and technologies are transforming the twenty-first-century workplace at lightning speed. To perform their jobs successfully in this dynamic environment, workers in many 13 fields—from social services to manufacturing, must continually acquire relevant knowledge and updatekey skills. This practice of continued education, also known as professional development, benefits not only employees but also their employers. 14 Accordingly, meaningful professional development is a shared responsibility: it is the responsibility of employers to provide useful programs, and it is also the responsibility of employees to take advantage of the opportunities offered to them.

Critics of employer-provided professional development argue that employees 15 might consider a popular career path. If employees find themselves falling behind in the workplace, these critics 16 contend. Thenit is the duty of those employees to identify, and even pay

12

A) NO CHANGE
B) also new practices,
C) in addition to practices,
D) practices,

13

A) NO CHANGE
B) fields
C) fields,
D) fields;

14

A) NO CHANGE
B) Nevertheless,
C) Regardless,
D) Similarly,

15

Which choice best establishes the argument that follows?

A) NO CHANGE
B) should lean heavily on their employers.
C) must be in charge of their own careers.
D) will be ready for changes in the job market.

16

A) NO CHANGE
B) contend; then
C) contend then
D) contend, then

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CONTINUE

for, appropriate resources to 17 show them how andwhy they are falling behind and what they should doabout it. This argument ignores research pointing to high employee turnover and training of new staff as significant costs plaguing employers in many fields.

Forward-thinking employers recognize the importance of investing in the employees they have rather than hiring new staff when the skills of current workers 18 get old and worn out.

17

A) NO CHANGE
B) address their deficiencies.
C) deal with their flaws and shortcomings.
D) allow them to meet their employers' needs in terms of the knowledge they are supposed to have.

18

A) NO CHANGE
B) are no good anymore.
C) become obsolete.
D) have lost their charm.

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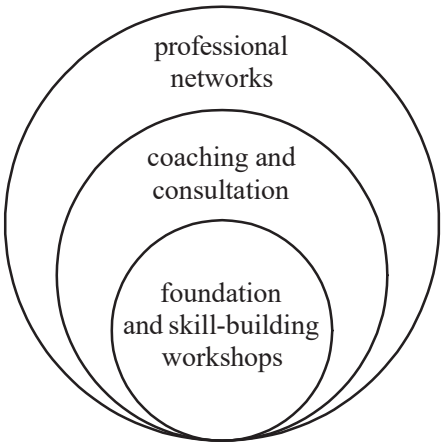
CONTINUE

The most common forms of professional development provided to employees **19** includes coaching, mentoring, technical assistance, and workshops. Some employers utilize several approaches simultaneously, developing a framework that suits the particular needs of their employees. **20** Around the sametime, the figure illustrates a simple yet comprehensive professional-development model created for special education personnel. As the figure suggests, **21** receivingcoaching and consultation is the overarching framework,while the opportunity to belong to professional networks and participate in activities such as foundation and skill-building workshops is relatively unimportant.

Professional-Development Framework



Adapted from Northern Suburban Special Education District, "Professional Development Framework." ©2014 by Northern SuburbanSpecial Education Program.

19

A) NO CHANGE
B) include
C) including
D) has included

20

A) NO CHANGE
B) Besides that,
C) Nevertheless,
D) DELETE the underlined portion and begin the sentence with a capital letter.

21

Which choice makes the writer's description of the figure most accurate?

A) NO CHANGE
B) participation in foundation and skill-building workshops is the overarching framework within which staff receive coaching and consultation as well as the opportunity to belong to a professional network.
C) membership in a professional network is the overarching framework within which staff receive coaching and consultation as well as the opportunity to attend foundation and skill-building workshops.
D) receiving coaching and consultation is the overarching framework within which staff havethe opportunity to belong to a professional network as well as attend foundation and skill-building workshops.

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CONTINUE

A recent trend in professional development that has provided advantages to both employers and employees is online instruction. From an employer perspective, the first and perhaps most obvious advantage is the lower cost of online professional development compared withthat of in-person workshops and training. Employers canalso 22 identify, which employees have successfully completed instructional modules and which need to be offered additional training. For employees, online professional development provides the opportunity to receive instruction at their own pace and interact with other professionals online. This exciting trend has the potential to make the shared responsibility of professional development less burdensome for both employers and employees.

22

A) NO CHANGE
B) identify:
C) identify
D) identify—

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CONTINUE

Questions 23-33 are based on the following passage.

The Evolution of Slow Food

In 1986, McDonald's caused a stir in Italy when itopened a restaurant next to Rome's historic Spanish Steps. Young, on-the-go eaters were thrilled; 23 specifically, those who prized regional foods and Italy's convivial culture built on cooking and long meals feared that the restaurant signaled the death of a way of life. To counter the rise of fast food and fast 24 life, a cohort of chefs, journalists, and sociologists spearheadeda Slow Food movement, declaring loyalty to unhurried enjoyment. 25

From its beginning, the movement 26 had opposed the standardization of taste that fast food chains promote. For example, a McDonald's hamburger made in Boston tastes more or less the same as one made in Beijing. This consistency is made possible by industrial mass production. Slow Food supporters, by contrast, back methods of growing and preparing food based on regional culinary traditions. When produced using traditional methods, goat cheese made in France tastes different from goat cheese made in Vermont. A goat

23

A) NO CHANGE
B) for example,
C) however,
D) in fact,

24

A) NO CHANGE
B) life; a
C) life: a
D) life. A

25

At this point, the writer is considering adding the following sentence.

> The group's philosophy was connected to the tale of the hare and the tortoise, in which the tortoise wins the race.

Should the writer make this addition here?

A) Yes, because it explains the primary belief that led to the development of the Slow Food movement.
B) Yes, because it reinforces a claim that the writer makes earlier in the paragraph.
C) No, because it blurs the paragraph's focus by introducing a new idea that is not clearly explained.
D) No, because it distracts from the paragraph's emphasis on the Slow Food movement's origins and beliefs.

26

A) NO CHANGE
B) opposes
C) will oppose
D) has opposed

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CONTINUE

ingests the vegetation particular to the meadow in whichit grazes, which, along with other environmental 27 factors such as altitude and weather shapes the cheese's taste and texture. If all foods were produced under the industrial model, 28 we would have meals that are not very flavorful.

During 29 their early years, the movement also focused on the value of 30 spending lots of time with friends and family during long meals. It emphasized the importance of preserving these "easygoing, slow

27

A) NO CHANGE
B) factors, such as altitude and weather,
C) factors such as, altitude and weather,
D) factors, such as altitude and weather

28

Which choice most effectively supports the central point of the paragraph?

A) NO CHANGE
B) the public would not be interested in learning about traditional foods.
C) people would not be able to determine how a particular food was made.
D) consumers would lose this diversity of flavors.

29

A) NO CHANGE
B) there
C) its
D) it's

30

A) NO CHANGE
B) leisurely meals with friends and family.
C) eating slowly and in the company of loved ones such as friends and family.
D) joining friends as well as family fortime-consuming meals.

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CONTINUE

pleasures." As the movement grew beyond Italy's borders—today Slow Food International boasts more than 100,000 members in 150 countries—this emphasis on pleasure 31 pictured criticism for being elitist. Critics have also asked if growing food using traditional methods, as opposed to mass production, 32 can adequately and affordably feed the world? Given the hectic pace of modern life, who among us has the time and resources for elaborate meals? Such questions, in addition to environmental concerns, are at the heart of perennial debates about food production.

Over time, Slow Food has broadened its mission to focus on food that is good, clean, and fair for all. Members assert that food should be flavorful, carrying the properties of a particular region; it should be raised using environmentally sustainable practices that preserve biodiversity; and it should be accessible to all without exploiting the labors of those who produced it. 33 In short, Slow Food runs programs that support small-scale producers in marketing regional foods in a world where food corporations threaten to drive them out of the marketplace and homogenize food choices.

31

A) NO CHANGE
B) portrayed
C) drew
D) sketched

32

A) NO CHANGE
B) adequately and affordably can feed the world?
C) can adequately and affordably feed the world.
D) adequately and affordably can feed the world.

33

A) NO CHANGE
B) Nonetheless,
C) To these ends,
D) By the same token,

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CONTINUE

Questions 34-44 are based on the following passage.

Was the Hoax a Hoax?

For an hour on the evening of October 30, 1938, Orson Welles and other performers from the Mercury Theatre flooded the airwaves with alarming "news bulletins" about a Martian invasion supposedly occurring in Grover's Mill, New Jersey. They were performing a radio play adapted from *The War of the Worlds*, a science fiction novel by H. G. Wells. The next day, a front-page 34 headline in the *New York Times* declared, "Radio Listeners in Panic, Taking War Drama as Fact." 35 The *Times* article claimed that people had fled their homes and that police stations had been swamped with calls. This version of events persisted, and the legend became that Welles's broadcast had as many as twelve million people 36 who feared that Martians had invaded Earth.

Recently, however, scholars have questioned the accuracy of this legend, suggesting the degree of public hysteria has been grossly exaggerated. The authors of an article published in October 2013 go 37 so far to assign blame for the distortion to the newspaper industry.

34

A) NO CHANGE
B) headline in the *New York Times*, declared
C) headline, in the *New York Times* declared,
D) headline, in the *New York Times*, declared

35

The writer wants to add a supporting detail to indicate that the story was widely reported. Whichchoice best accomplishes this goal?

A) NO CHANGE
B) Other newspapers also ran stories claiming that the broadcast had incited mass hysteria.
C) In 2013, many newspapers and magazines featured articles about the seventy-fifth anniversary of the broadcast.
D) The *Times* was then and is now one of the United States' most popular news sources.

36

A) NO CHANGE
B) that feared
C) fearing
D) to fear

37

A) NO CHANGE
B) as far
C) as far and
D) so far as

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CONTINUE

38 At this time, Jefferson Pooley and Michael Socolow, both professors of communication studies, argue that the newspaper industry sought to discredit the newly emerging technology of radio, which was cutting into newspapers' 39 profits. The newspaper industry tried to do this by portraying the new medium as irresponsible.

[1] Proof of ulterior motives is scarce, 40 consequently weakening Pooley and Socolow's argument. [2] For instance, the C. E. Hooper ratings indicate that a mere 2 percent of households had tuned into the broadcast. [3] Pooley and Socolow also call into question the validity of an oft-cited report that was based on a survey conducted six weeks after the broadcast. [4] Just because some people found the broadcast unsettling, the authors contend, doesn't mean they believed it and reacted with real terror. [5] According to this report, one million people indicated that they had been "frightened" by the broadcast. [6] Ratings, however, reveal that 41 far fewer than a million people had been

38

A) NO CHANGE
B) On one hand,
C) In the article,
D) Next,

39

Which choice most effectively combines thesentences at the underlined portion?

A) profits, which is what the newspaper industry tried to do when it portrayed
B) profits, by which the newspaper industry portrayed
C) profits and tried to do this by portraying
D) profits, by portraying

40

Which choice best establishes the main idea of the paragraph?

A) NO CHANGE
B) but evidence does suggest that reports of panic have been overblown.
C) yet Pooley and Socolow maintain that the newspaper industry intentionally distorted the story.
D) making it difficult to determine what really happened in 1938.

41

A) NO CHANGE
B) many less than
C) much less then
D) much fewer then

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CONTINUE

listening to the broadcast. [7] Furthermore, Pooley and Socolow note that this survey "conflated being 'frightened,' 'disturbed,' or 'excited' by the program with being 'panicked.'" 42

Pooley and Socolow describe a more likely scenario: most people who heard the broadcast understood theywere listening to a piece of fiction, but 43 some beinginfluenced by the sensationalized news coverage afterward, later "remembered" being more afraid than they had been. The researchers also suggest that,

44 not unlike people who got caught up in the excitement of the story when reading about it in the newspaper, the American public may have been willing toembrace the legend because of its appeal to the imagination.

42

To make this paragraph most logical, sentence 4 should be placed

A) where it is now.
B) after sentence 2.
C) after sentence 5.
D) after sentence 7.

43

A) NO CHANGE
B) some, they were
C) some,
D) some

44

Which choice most effectively signals the comparison the writer is making between the twogroups mentioned?

A) NO CHANGE
B) unlike
C) not like
D) different from

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Practice Test #6

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Test begins on the next page.

Reading Test

65 MINUTES, 52 QUESTIONS

Turn to Section 1 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage or pair of passages below is followed by a number of questions. After readingeach passage or pair, choose the best answer to each question based on what is stated or implied in the passage or passages and in any accompanying graphics (such as a table orgraph).

Questions 1-10 are based on the followingpassage.

This passage is from Carlos Ruiz Zafón, *The Angel's Game*. ©2008 by Dragonworks, S.L. Translation ©2009 by Lucia Graves. The narrator, a writer, recalls his childhood inearly twentieth-century Barcelona.

Even then my only friends were made of paper and ink. At school I had learned to read and write long before the other children. Where my school Line friends saw notches of ink on incomprehensible 5 pages, I saw light, streets, and people. Words and the mystery of their hidden science fascinated me, and I saw in them a key with which I could unlock a boundless world, a safe haven from that home, those streets, and those troubled days in which even I 10 could sense that only a limited fortune awaited me. My father didn't like to see books in the house. There was something about them—apart from the letters he could not decipher—that offended him. He used to tell me that as soon as I was ten he would 15 send me off to work and that I'd better get rid of all my scatterbrained ideas if I didn't want to end up a loser, a nobody. I used to hide my books under the mattress and wait for him to go out or fall asleep so that I could read. Once he caught me reading at night 20 and flew into a rage. He tore the book from my hands and flung it out of the window.

"If I catch you wasting electricity again, readingall this nonsense, you'll be sorry."

My father was not a miser and, despite the 25 hardships we suffered, whenever he could he gave mea few coins so that I could buy myself some treats like the other children. He was convinced that I spent them on licorice sticks, sunflower seeds, or sweets, but I would keep them in a coffee tin under the bed, 30 and when I'd collected four or five reales I'd secretly rush out to buy myself a book.

My favorite place in the whole city was the Sempere & Sons bookshop on Calle Santa Ana. Itsmelled of old paper and dust and it was my 35 sanctuary, my refuge. The bookseller would let me sit on a chair in a corner and read any book I liked to my heart's content. He hardly ever allowed me to pay for the books he placed in my hands, but when he wasn't looking I'd leave the coins I'd managed to 40 collect on the counter before I left. It was only small change—if I'd had to buy a book with that pittance, I would probably have been able to afford only a booklet of cigarette papers. When it was time for me to leave, I would do so dragging my feet, a weight on 45 my soul. If it had been up to me, I would have stayed there forever.

One Christmas Sempere gave me the best gift I have ever received. It was an old volume, read and experienced to the full.

50 "*Great Expectations*, by Charles Dickens," I readon the cover.

I was aware that Sempere knew a few authors who frequented his establishment and, judging by the care with which he handled the volume, I thought 55 perhaps this Mr. Dickens was one of them.

"A friend of yours?"

"A lifelong friend. And from now on, he's yourfriend too."

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CONTINUE

That afternoon I took my new friend home,
60 hidden under my clothes so that my father wouldn't see it. It was a rainy winter, with days as gray as lead, and I read *Great Expectations* about nine times, partly because I had no other book at hand, partly because I did not think there could be a better one in
65 the whole world and I was beginning to suspect that Mr. Dickens had written it just for me. Soon I was convinced that I didn't want to do anything else in life but learn to do what Mr. Dickens had done.

1

Over the course of the passage, the main focus shifts from a

A) general discussion of the narrator's love of reading to a portrayal of an influential incident.

B) depiction of the narrator's father to an examination of an author with whom the narrator becomes enchanted.

C) symbolic representation of a skill the narrator possesses to an example of its application.

D) tale about the hardships of the narrator's childhood to an analysis of the effects of those hardships.

2

The main purpose of lines 1-10 ("Even . . . awaited me") is to

A) introduce the characters who play a part in the narrator's story.

B) list the difficult conditions the narrator endured in childhood.

C) describe the passion that drives the actions the narrator recounts.

D) depict the narrator's aspirations before he met Sempere.

3

With which of the following statements about his father would the narrator most likely agree?

A) He lacked affection for the narrator.

B) He disliked any unnecessary use of money.

C) He would not have approved of Sempere's gift.

D) He objected to the writings of Charles Dickens.

4

Which choice provides the best evidence for the answer to the previous question?

A) Lines 24-27 ("My father . . . children")

B) Lines 35-37 ("The bookseller . . . content")

C) Lines 37-38 ("He hardly . . . hands")

D) Lines 59-61 ("That afternoon . . . see it")

5

It can reasonably be inferred from the passage thatthe main reason that the narrator considers *Great Expectations* to be the best gift he ever received is because

A) reading the book convinced him that he wanted to be a writer.

B) he'd only ever been given sweets and snacks as gifts in the past.

C) the gift meant that Sempere held him in high regard.

D) Sempere was a friend of the book's author.

6

Which choice provides the best evidence for the answer to the previous question?

A) Lines 38-40 ("when . . . left")

B) Lines 48-49 ("It was . . . full")

C) Lines 52-55 ("I was . . . them")

D) Lines 66-68 ("Soon . . . done")

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CONTINUE

7

The narrator indicates that he pays Sempere

A) less than Sempere expects him to pay for the books.

B) nothing, because Sempere won't take his money.

C) the money he makes selling sweets to the other children.

D) much less for the books than they are worth.

8

As used in line 44, "weight" most nearly means

A) bulk.

B) burden.

C) force.

D) clout.

9

The word "friend" is used twice in lines 57-58 to

A) underline the importance of the narrator's connection to Sempere.

B) stress how friendships helped the narrator deal with his difficult home situation.

C) emphasize the emotional connection Sempere feels to reading.

D) imply that the narrator's sentiments caused him to make an irrational decision.

10

Which statement best characterizes the relationship between Sempere and Charles Dickens?

A) Sempere models his own writing after Dickens's style.

B) Sempere is an avid admirer of Dickens's work.

C) Sempere feels a personal connection to details of Dickens's biography.

D) Sempere considers himself to be Dickens's most appreciative reader.

Questions 11-21 are based on the followingpassage and supplementary material.

This passage is adapted from Jeffrey Mervis, "Why Null Results Rarely See the Light of Day." ©2014 by AmericanAssociation for the Advancement of Science.

The question of what to do with null results—when researchers fail to see an effect that should be detectable—has long been hotly debated among those conducting medical trials, where the results can have a big impact on lives and corporate bottom lines. More recently, the debate has spread tothe social and behavioral sciences, which also have the potential to sway public and social policy.

There were little hard data, however, on how often or why null results were squelched. "Yes, it's true that null results are not as exciting," political scientist Gary King of Harvard University says. "But I suspectanother reason they are rarely published is that thereare many, many ways to produce null results by messing up. So they are much harder to interpret."

In a recent study, Stanford political economist Neil Malhotra and two of his graduate students examined every study since 2002 that was funded bya competitive grants program called TESS (Time-sharing Experiments for the Social Sciences). TESS allows scientists to order up Internet-based surveys of a representative sample of US adults to testa particular hypothesis (for example, whether voters tend to favor legislators who boast of bringing federal dollars to their districts over those who tout a focus on policy matters).

Malhotra's team tracked down working papers from most of the experiments that weren't published, and for the rest asked grantees what had happened to their results. In their e-mailed responses, some scientists cited deeper problems with a study or more pressing matters—but many also believed the journals just wouldn't be interested. "The unfortunate reality of the publishing world [is] that null effects do not tell a clear story," said one scientist. Said another, "Never published, definitely disappointed to not see any major effects."

Their answers suggest to Malhotra that rescuing findings from the file drawer will require a shift in expectations. "What needs to change is the culture—the author's belief about what will happen ifthe research is written up," he says.

Not unexpectedly, the statistical strength of the findings made a huge difference in whether they were ever published. Overall, 42% of the experiments

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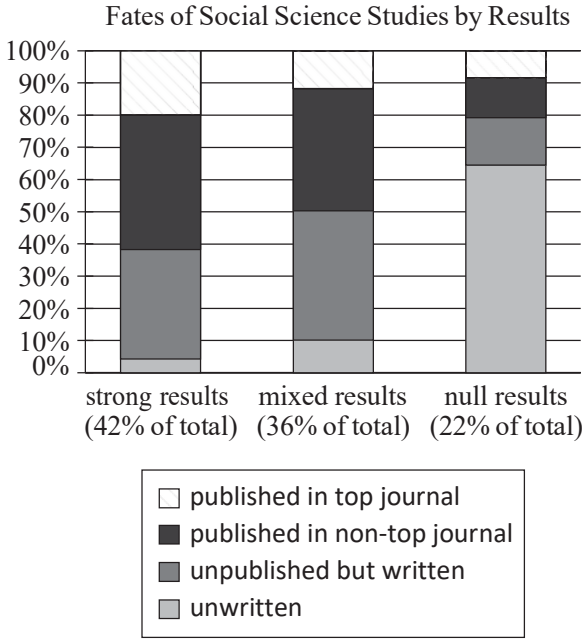
CONTINUE

produced statistically significant results. Of those, 62% were ultimately published, compared with 21%of the null results. However, the Stanford team was surprised that researchers didn't even write up 65% of the experiments that yielded a null finding.

Scientists not involved in the study praise its "clever" design. "It's a very important paper" that "starts to put numbers on things we want to understand," says economist Edward Miguel of the University of California, Berkeley.

He and others note that the bias against null studies can waste time and money when researchers devise new studies replicating strategies already found to be ineffective. Worse, if researchers publish significant results from similar experiments in the future, they could look stronger than they should because the earlier null studies are ignored. Even more troubling to Malhotra was the fact that two scientists whose initial studies "didn't work out" went on to publish results based on a smaller sample. "The non-TESS version of the same study, in which we used a student sample, did yield fruit," noted one investigator.

A registry for data generated by all experiments would address these problems, the authors argue. They say it should also include a "preanalysis" plan,that is, a detailed description of what the scientist hopes to achieve and how the data will be analyzed.Such plans would help deter researchers from tweaking their analyses after the data are collected in search of more publishable results.



Adapted from Annie Franco, Neil Malhotra, and Gabor Simonovits, "Publication Bias in the Social Sciences: Unlocking the File Drawer." ©2014 by American Association for the Advancement of Science.

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CONTINUE

11

The passage primarily serves to

A) discuss recent findings concerning scientific studies and dispute a widely held belief about the publication of social science research.

B) explain a common practice in the reporting of research studies and summarize a study that provides support for a change to that practice.

C) describe the shortcomings in current approaches to medical trials and recommend the implementation of a government database.

D) provide context as part of a call for stricter controls on social science research and challenge publishers to alter their mindsets.

12

As used in line 21, "allows" most nearly means

A) admits.

B) tolerates.

C) grants.

D) enables.

13

As used in line 43, "strength" most nearly means

A) attribution.

B) exertion.

C) toughness.

D) significance.

14

The passage indicates that a problem with failing to document null results is that

A) the results of related studies will be misleading.

B) researchers may overlook promising areas of study.

C) mistakes in the collection of null results may be overlooked.

D) the bias against null results will be disregarded.

15

Which choice provides the best evidence for the answer to the previous question?

A) Lines 38-40 ("Their . . . expectations")

B) Lines 48-50 ("However . . . finding")

C) Lines 56-59 ("He and . . . ineffective")

D) Lines 59-62 ("Worse . . . ignored")

16

Based on the passage, to which of the following hypothetical situations would Malhotra most strongly object?

A) A research team refuses to publish null results in anything less than a top journal.

B) A research team excludes the portion of data that produced null results when reporting its results in a journal.

C) A research team unknowingly repeats a study that produced null results for another research team.

D) A research team performs a follow-up study that expands the scope of an initial study that produced null results.

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17

Which choice provides the best evidence for the answer to the previous question?

A) Lines 36-37 ("Said . . . effects")
B) Lines 45-48 ("Overall . . . null results")
C) Lines 62-68 ("Even . . . investigator")
D) Lines 69-73 ("A registry . . . analyzed")

18

The last paragraph serves mainly to

A) propose a future research project to deal with some of the shortcomings of current publishing practices noted in the passage.
B) introduce a possible solution to problems discussed in the passage regarding the reporting of social science studies.
C) summarize the findings of a study about experimental results explained in the passage.
D) reinforce the importance of reexamining the results of all social science trials.

19

According to the graph, social science studies yielding strong results were

A) unwritten over 50 percent of the time.
B) unpublished but written 50 percent of the time.
C) published in a top journal approximately 20 percent of the time.
D) published in a non-top journal almost 80 percent of the time.

20

Which of the following statements is supported by the graph?

A) Studies with mixed results were just as likely to be published as they were to be left either unpublished or unwritten.
B) Studies with mixed results occurred more frequently than did studies with strong and null results combined.
C) Studies with mixed results were more likely to be published in top journals than they were to be published in non-top journals.
D) Studies with mixed results were the most common type of social science studies.

21

Which statement from the passage is most directly reflected by the data presented in the graph?

A) Lines 30-33 ("In their . . . interested")
B) Lines 33-36 ("The unfortunate . . . scientist")
C) Lines 43-45 ("Not unexpectedly . . . published")
D) Lines 52-55 ("It's a . . . Berkeley")

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CONTINUE

Questions 22-31 are based on the followingpassage and supplementary material.

This passage is adapted from Rachel Ehrenberg, "Salt Stretches in Nanoworld." ©2009 by Society for Science & thePublic. The "nanoworld" is the world observed on a scale one billionth that of ordinary human experience.

Inflexible old salt becomes a softy in the nanoworld, stretching like taffy to more than twice its length, researchers report. The findings may lead to new approaches for making nanowires that could end up in solar cells or electronic circuits. The work also suggests that these ultra-tiny salt wires may already exist in sea spray and large underground salt deposits.

"We think nanowires are special and go to great lengths to make them," says study coauthor Nathan Moore of Sandia National Laboratories in Albuquerque. "Maybe they are more common thanwe think."

Metals such as gold or lead, in which bonding angles are loosey-goosey, can stretch out at temperatures well below their melting points. But scientists don't expect this superplasticity in a rigid, crystalline material like salt, Moore says.

This unusual behavior highlights that different forces rule the nanoworld, says theoretical physicist Krzysztof Kempa of Boston College. "Forget about gravity. It plays no role," he says. Surface tension and electrostatic forces are much more important at this scale.

Moore and his colleagues discovered salt's stretchiness accidently. They were investigating how water sticks to a surface such as salt and created a super-dry salt sample for testing. After cleaving a chunk of salt about the size of a sugar cube with a razor, the scientists guided a microscope that detects forces toward the surface. When the tip was far away there was no measured force, but within about seven nanometers a very strong attraction rapidly developed between the diamond tip of the microscope and the salt. The salt actually stretched out to glom on to the microscope tip. Using an electron microscope to see what was happening, the researchers observed the nanowires.

The initial attraction between the tip and salt might be due to electrostatic forces, perhaps good old van der Waals interactions,[1] the researchers speculate. Several mechanisms might lead to the elasticity, including the excessive surface tension found in the nanoworld (the same tension that allows a water strider to skim the surface of a pond).

The surface tension is so strong that as the microscope pulls away from the salt, the salt stretches, Kempa says. "The inside has no choice but to rearrange the atoms, rather than break," he says.

This bizarre behavior is actually mirrored in the macroworld, the researchers say. Huge underground deposits of salt can bend like plastic, but water is believed to play a role at these scales. Perhaps salty nanowires are present in these deposits as well.

"Sodium chloride[2] is everywhere—in the air, in our bodies," Moore says. "This may change our view of things, of what's happening at the nanoscale."

The work also suggests new techniques for making nanowires, which are often created through nano-imprinting techniques, Kempa says. "We invoke the intuition of the macroworld," he says. "Maybe instead of stamping [nanowires] we shouldbe nano-pulling them."

[1] Attractive forces between nearby atoms[2] Common salt

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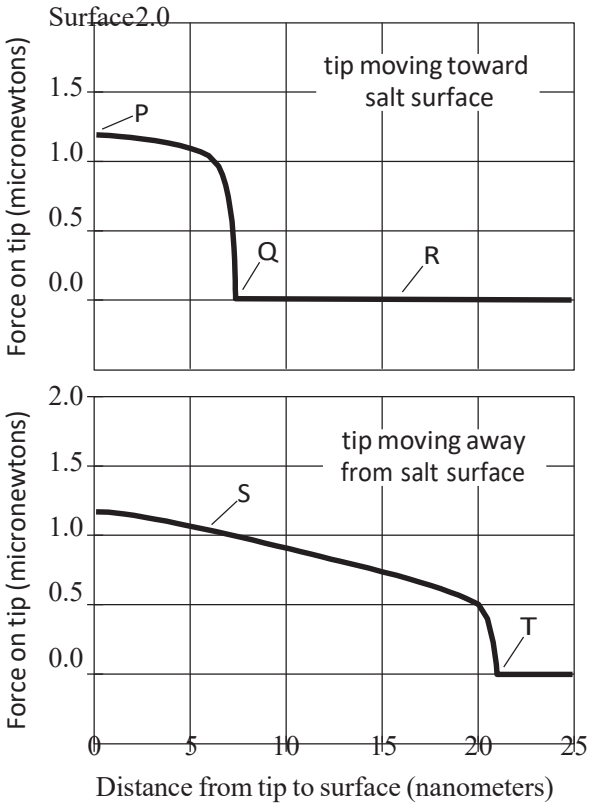
CONTINUE

Interaction of Microscope Tip with Salt Surface



Adapted from Moore et al., "Superplastic Nanowires Pulled from the Surface of Common Salt." ©2009 by American Chemical Society.

22

One central idea of the passage is that

A) sometimes materials behave contrary to expectations.

B) systems can be described in terms of inputs and outputs.

C) models of materials have both strengths and weaknesses.

D) properties of systems differ from the properties of their parts.

23

Which choice best describes the overall structure of the passage?

A) A list of several ways in which salt's propertiesdiffer from researchers' expectations

B) A presentation of a hypothesis regarding salt behavior, description of an associated experiment, and explanation of why the results weaken the hypothesis

C) A description of two salt crystal experiments, the apparent disagreement in their results, and the resolution by more sensitive equipment

D) An introduction to an interesting salt property, description of its discovery, and speculation regarding its application

24

Which choice provides the best evidence for the claim that Moore's group was surprised to observe salt stretching?

A) Lines 17-18 ("But . . . says")

B) Lines 26-28 ("They were . . . testing")

C) Lines 36-38 ("Using . . . nanowires")

D) Lines 55-56 ("Sodium . . . says")

25

As used in line 20, "rule" most nearly means

A) mark.

B) control.

C) declare.

D) restrain.

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CONTINUE

26

According to the passage, researchers have identified which mechanism as potentially responsible for the initial attraction between the microscope tip and the salt?

A) Gravity
B) Nano-imprinting
C) Surface tension
D) Van der Waals interactions

27

As used in line 42, "lead to" most nearly means

A) guide to.
B) result in.
C) point toward.
D) start with.

28

Based on the passage, which choice best describes the relationship between salt behavior in the nanoworld and in the macroworld?

A) In both the nanoworld and the macroworld, salt can be flexible.
B) Salt flexibility is expected in the nanoworld but is surprising in the macroworld.
C) Salt nanowires were initially observed in the nanoworld and later observed in the macroworld.
D) In the nanoworld, salt's interactions with water lead to very different properties than they do in the macroworld.

29

Which choice provides the best evidence for the answer to the previous question?

A) Lines 12-13 ("Maybe . . . think")
B) Lines 22-24 ("Surface . . . scale")
C) Lines 39-42 ("The initial . . . speculate")
D) Lines 51-53 ("Huge . . . scales")

30

According to the information in the graph, when the microscope tip is moving away from the salt surface and is 15 nanometers from the surface, what is the approximate force on the microscope tip, in micronewtons?

A) 0
B) 0.25
C) 0.75
D) 1.25

31

Based on the passage and the graph, which label on the graph indicates the point at which a salt nanowire breaks?

A) P
B) Q
C) R
D) T

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CONTINUE

Questions 32-41 are based on the followingpassages.

These passages are adapted from the Lincoln-Douglas debates. Passage 1 is from a statement by Stephen Douglas.Passage 2 is from a statement by Abraham Lincoln. Douglas and Lincoln engaged in a series of debates while competingfor a US Senate seat in 1858.

Passage 1

Mr. Lincoln likens that bond of the Federal Constitution, joining Free and Slave States together, to a house divided against itself, and says that it is contrary to the law of God, and cannot stand. When did he learn, and by what authority does he proclaim, that this Government is contrary to the law of God and cannot stand? It has stood thus divided into Free and Slave States from its organization up to this day. During that period we have increased from four millions to thirty millions of people; we have extended our territory from the Mississippi to the Pacific Ocean; we have acquired the Floridas and Texas, and other territory sufficient to double our geographical extent; we have increased in population, in wealth, and in power beyond any example on earth; we have risen from a weak and feeble power to become the terror and admiration of the civilized world; and all this has been done under a Constitution which Mr. Lincoln, in substance, says is in violation of the law of God; and under a Union divided into Free and Slave States, which Mr. Lincolnthinks, because of such division, cannot stand. Surely, Mr. Lincoln is a wiser man than those who framed the Government. . . .

I now come back to the question, why cannot this Union exist forever, divided into Free and Slave States, as our fathers made it? It can thus exist if each State will carry out the principles upon which our institutions were founded; to wit, the right of each State to do as it pleases, without meddling with its neighbors. Just act upon that great principle, and this Union will not only live forever, but it will extend and expand until it covers the whole continent, and makes this confederacy one grand, ocean-bound Republic. We must bear in mind that we are yet a young nation, growing with a rapidity unequalled in the history of the world, that our national increase is great, and that the emigration from the old world is increasing, requiring us to expand and acquire new territory from time to time, in order to give our people land to live upon. If we live upon the principle of State rights and State sovereignty, each State regulating its own affairs and minding its own business, we can go on and extend indefinitely, just as fast and as far as we need the territory. . . .

Passage 2

In complaining of what I said in my speech at Springfield, in which he says I accepted my nomination for the Senatorship .....he again quotes that portion in which I said that "a house divided against itself cannot stand." Let me say a word in regard to that matter. He tries to persuade us that there must be a variety in the different institutions of the States of the Union; that that variety necessarily proceeds from the variety of soil, climate, of the face of the country, and the difference in the natural features of the States. I agree to all that. Have these very matters ever produced any difficulty among us? Not at all. Have we ever had any quarrel over the fact that they have laws in Louisiana designed to regulate the commerce that springs from the production of sugar? Or because we have a different class relative to the production of flour in this State? Have they produced any differences? Not at all. They are the very cements of this Union. They don't make the house a "house divided against itself." They are the props that hold up the house and sustain the Union.

But has it been so with this element of slavery? Have we not always had quarrels and difficulties over it? And when will we cease to have quarrels over it? Like causes produce like effects. It is worth while to observe that we have generally had comparative peace upon the slavery question, and that there has been no cause for alarm until it was excited by the effort to spread it into new territory. Whenever it has been limited to its present bounds, and there has been no effort to spread it, there has been peace. All the trouble and convulsion has proceeded from efforts to spread it over more territory. It was thus at the date of the Missouri Compromise. It was so again with the annexation of Texas; so with the territory acquired by the Mexican War; and it is so now. Whenever there has been an effort to spread it there has been agitation and resistance .....Do you think that the nature of man will be changed, that the same causes that produced agitation at one time will not have the same effect at another?

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CONTINUE

32

In the first paragraph of Passage 1, the main purpose of Douglas's discussion of the growth of the territory and population of the United States is to

A) provide context for Douglas's defense of continued expansion.
B) suggest that the division into free and slave states does not endanger the Union.
C) imply that Lincoln is unaware of basic factsconcerning the country.
D) account for the image of the United States as powerful and admirable.

33

What does Passage 1 suggest about the US government's provisions for the institution of slavery, as framed in the Constitution?

A) They included no means for reconciling differences between free states and slave states.
B) They anticipated the Union's expansion into western territories.
C) They provided a good basic structure that does not need to be changed.
D) They were founded on an assumption that slavery was necessary for economic growth.

34

Which choice provides the best evidence for the answer to the previous question?

A) Lines 10-16 ("we have . . . earth")
B) Lines 25-27 ("I now . . . made it")
C) Lines 35-39 ("We must . . . increasing")
D) Lines 41-45 ("If we . . . territory")

35

As used in line 67, "element" most nearly means

A) ingredient.
B) environment.
C) factor.
D) quality.

36

Based on Passage 2, Lincoln would be most likely toagree with which claim about the controversy overslavery?

A) It can be ended only if Northern states act unilaterally to abolish slavery throughout the United States.
B) It would abate if attempts to introduce slavery to regions where it is not practiced were abandoned.
C) It has been exacerbated by the ambiguity of laws regulating the holding of slaves.
D) It is fueled in part by differences in religion and social values from state to state.

37

Which choice provides the best evidence for the answer to the previous question?

A) Lines 56-61 ("I agree . . . sugar")
B) Lines 64-66 ("They don't . . . Union")
C) Lines 74-76 ("Whenever . . . peace")
D) Lines 83-86 ("Do you . . . another")

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CONTINUE

38

As used in line 84, "nature" most nearly means

A) force.
B) simplicity.
C) world.
D) character.

39

Which choice identifies a central tension between the two passages?

A) Douglas proposes changes to federal policies on slavery, but Lincoln argues that such changes would enjoy no popular support.
B) Douglas expresses concerns about the economic impact of abolition, but Lincoln dismisses those concerns as irrelevant.
C) Douglas criticizes Lincoln for finding fault withthe Constitution, and Lincoln argues that this criticism misrepresents his position.
D) Douglas offers an interpretation of federal law that conflicts with Lincoln's, and Lincoln impliesthat Douglas's interpretation is poorly reasoned.

40

Both passages discuss the issue of slavery in relationship to

A) the expansion of the Union.
B) questions of morality.
C) religious toleration.
D) laws regulating commerce.

41

In the context of each passage as a whole, the questions in lines 25-27 of Passage 1 and lines 67-69 of Passage 2 primarily function to help each speaker

A) cast doubt on the other's sincerity.
B) criticize the other's methods.
C) reproach the other's actions.
D) undermine the other's argument.

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CONTINUE

Questions 42-52 are based on the followingpassage.

This passage is adapted from Daniel Chamovitz, *What aPlant Knows: A Field Guide to the Senses*. ©2012 by Daniel Chamovitz.

The Venus flytrap [*Dionaea muscipula*] needs to know when an ideal meal is crawling across its leaves. Closing its trap requires a huge expense of energy, and reopening the trap can take several hours, so *Dionaea* only wants to spring closed when it's sure that the dawdling insect visiting its surface is large enough to be worth its time. The large black hairs on their lobes allow the Venus flytraps to literally feel their prey, and they act as triggers that spring the trap closed when the proper prey makes its way across the trap. If the insect touches just one hair, the trap will not spring shut; but a large enough bug will likely touch two hairs within about twenty seconds, and that signal springs the Venus flytrap into action.

We can look at this system as analogous to short-term memory. First, the flytrap encodes the information (forms the memory) that something (it doesn't know what) has touched one of its hairs. Then it stores this information for a number of seconds (retains the memory) and finally retrieves this information (recalls the memory) once a second hair is touched. If a small ant takes a while to get from one hair to the next, the trap will have forgotten the first touch by the time the ant brushes up against the next hair. In other words, it loses the storage of the information, doesn't close, and the ant happily meanders on. How does the plant encode and store the information from the unassuming bug's encounter with the first hair? How does it remember the first touch in order to react upon the second?

Scientists have been puzzled by these questions ever since John Burdon-Sanderson's early report on the physiology of the Venus flytrap in 1882. A century later, Dieter Hodick and Andreas Sievers at the University of Bonn in Germany proposed that the flytrap stored information regarding how many hairs have been touched in the electric charge of its leaf. Their model is quite elegant in its simplicity. In their studies, they discovered that touching a trigger hair on the Venus flytrap causes an electric action potential [a temporary reversal in the electrical polarity of a cell membrane] that induces calcium channels to open in the trap (this coupling of action potentials and the opening of calcium channels is similar to the processes that occur during communication between human neurons), thus causing a rapid increase in the concentration of calcium ions.

They proposed that the trap requires a relatively high concentration of calcium in order to close and that a single action potential from just one trigger hair being touched does not reach this level. Therefore, a second hair needs to be stimulated to push the calcium concentration over this threshold and spring the trap. The encoding of the information requires maintaining a high enough level of calcium so that a second increase (triggered by touching the second hair) pushes the total concentration of calcium over the threshold. As the calcium ion concentrations dissipate over time, if the second touch and potential don't happen quickly, the final concentration after the second trigger won't be high enough to close the trap, and the memory is lost.

Subsequent research supports this model. Alexander Volkov and his colleagues at Oakwood University in Alabama first demonstrated that it is indeed electricity that causes the Venus flytrap to close. To test the model they rigged up very fine electrodes and applied an electrical current to the open lobes of the trap. This made the trap close without any direct touch to its trigger hairs (while they didn't measure calcium levels, the current likely led to increases). When they modified this experiment by altering the amount of electrical current, Volkov could determine the exact electrical charge needed for the trap to close. As long as fourteen microcoulombs—a tiny bit more than the static electricity generated by rubbing two balloons together—flowed between the two electrodes, the trap closed. This could come as one large burst or asa series of smaller charges within twenty seconds. If it took longer than twenty seconds to accumulate the total charge, the trap would remain open.

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CONTINUE

42

The primary purpose of the passage is to

A) discuss findings that offer a scientific explanation for the Venus flytrap's closing action.

B) present research that suggests that the Venus flytrap's predatory behavior is both complex and unique among plants.

C) identify the process by which the Venus flytrap's closing action has evolved.

D) provide a brief overview of the Venus flytrap and its predatory behavior.

43

Based on the passage, a significant advantage of the Venus flytrap's requirement for multiple triggers is that it

A) enables the plant to identify the species of its prey.

B) conserves the plant's calcium reserves.

C) safeguards the plant's energy supply.

D) prevents the plant from closing before capturing its prey.

44

Which choice provides the best evidence for the answer to the previous question?

A) Lines 3-7 ("Closing . . . time")

B) Lines 7-11 ("The large . . . across the trap")

C) Lines 11-14 ("If the . . . action")

D) Lines 16-18 ("First . . . hairs")

45

The use of the phrases "dawdling insect" (line 6), "happily meanders" (line 27), and "unassuming bug's encounter" (lines 28-29) in the first two paragraphs establishes a tone that is

A) academic.

B) melodramatic.

C) informal.

D) mocking.

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CONTINUE

46

In the second paragraph (lines 15-31), the discussion of short-term memory primarily functions to

A) clarify an explanation of what prompts the Venus flytrap to close.

B) advance a controversial hypothesis about the function of electric charges found in the leaf of the Venus flytrap.

C) stress the distinction between the strategies of the Venus flytrap and the strategies of human beings.

D) emphasize the Venus flytrap's capacity for retaining detailed information about its prey.

47

According to the passage, which statement best explains why the Venus flytrap requires a second trigger hair to be touched within a short amount of time in order for its trap to close?

A) The second trigger produces an electrical charge that reverses the charge produced by the first trigger.

B) The second trigger stabilizes the surge of calcium ions created by the first trigger.

C) The second trigger prompts the calcium channels to open.

D) The second trigger provides a necessary supplement to the calcium concentration released by the first trigger.

48

Which choice describes a scenario in which Hodick and Sievers's model predicts that a Venus flytrap will NOT close around an insect?

A) A large insect's second contact with the plant's trigger hairs results in a total calcium ion concentration above the trap's threshold.

B) A large insect makes contact with a second trigger hair after a period of inactivity during which calcium ion concentrations have diminished appreciably.

C) A large insect's contact with the plant's trigger hairs causes calcium channels to open in the trap.

D) A large insect's contact with a second trigger hair occurs within ten seconds of its contact with the first trigger hair.

49

As used in line 67, "demonstrated" most nearly means

A) protested.

B) established.

C) performed.

D) argued.

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CONTINUE

50

Based on the passage, what potential criticism might be made of Volkov's testing of Hodick and Sievers's model?

A) Volkov's understanding of Hodick and Sievers'smodel was incorrect.

B) Volkov's measurements did not corroborate a central element of Hodick and Sievers's model.

C) Volkov's direct application of an electrical current would have been objectionable to Hodick and Sievers.

D) Volkov's technology was not available to Hodickand Sievers.

51

Which choice provides the best evidence for the answer to the previous question?

A) Lines 66-69 ("Alexander . . . close")

B) Lines 69-71 ("To test . . . trap")

C) Lines 71-74 ("This . . . increases")

D) Lines 74-77 ("When . . . close")

52

Based on the passage, in studying the Venus flytrap, Volkov and his colleagues made the most extensive use of which type of evidence?

A) Mathematical models to predict the electrical charge required to close the Venus flytrap

B) Analysis of data collected from previous researchers' work involving the Venus flytrap'sresponse to electricity

C) Information obtained from monitoring the Venus flytrap's response to varying amounts of electrical current

D) Published theories of scientists who developed earlier models of the Venus flytrap

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section.

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Writing and Language Test

35 MINUTES, 44 QUESTIONS

Turn to Section 2 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage below is accompanied by a number of questions. For some questions, you will consider how the passage might be revised to improve the expression of ideas. For other questions, you will consider how the passage might be edited to correct errors in sentence structure, usage, or punctuation. A passage or a question may be accompanied by one or more graphics (such as a table or graph) that you will consider as you make revising and editing decisions.

Some questions will direct you to an underlined portion of a passage. Other questions willdirect you to a location in a passage or ask you to think about the passage as a whole.

After reading each passage, choose the answer to each question that most effectively improves the quality of writing in the passage or that makes the passage conform to the conventions of standard written English. Many questions include a "NO CHANGE" option.Choose that option if you think the best choice is to leave the relevant portion of the passage as it is.

Questions 1-11 are based on the following passageand supplementary material.

Compost: Don't Waste This Waste

Over the past generation, people in many parts of the United States have become accustomed to dividing their household waste products into different categories for recycling. 1 Regardless, paper may go in one container, glass and aluminum in another, regular garbage in a third. Recently, some US cities have added a new category: compost, organic matter such as food scraps and yard debris. Like paper or glass recycling, composting demands a certain amount of effort from the

1

A) NO CHANGE
B) However,
C) Furthermore,
D) For example,

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CONTINUE

public in order to be successful. But the inconveniences of composting are far outweighed by its benefits.

Most people think of banana peels, eggshells, and dead leaves as "waste," but compost is actually a valuable resource with multiple practical uses. When utilized as a garden fertilizer, compost provides nutrients to soil and improves plant growth while deterring or killing pests and preventing some plant diseases. It also enhances soil texture, encouraging healthy roots and minimizing or 2 annihilating the need for chemical fertilizers. Better than soil at holding moisture, compost minimizes water waste and storm runoff, 3 it increases savings on watering costs, and helps reduce erosion on embankments near bodies of water. In large 4 quantities, which one would expect to see when it is collected for an entire municipality), compost can be converted into a natural gas that can be used as fuel for transportation or heating and cooling systems.

2

Which choice best maintains the style and tone of the passage?

A) NO CHANGE
B) eliminating
C) ousting
D) closing the door on

3

A) NO CHANGE
B) savings increase
C) increases savings
D) also it increases savings

4

A) NO CHANGE
B) quantities (which
C) quantities which
D) quantities; (which

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CONTINUE

In spite of all compost's potential uses, however, most of this so-called waste is wasted. According to the Environmental Protection Agency (EPA), over 5 13 million tons of metal ended up in US landfills in 2009, along with over 13 million tons of yard debris. Remarkably, 6 less glass was discarded in landfills in that year than any other substance, including plastics or paper. Even 7 worse, then the squandering of this useful resource is the fact that compost in landfills cannotbreak down due to the lack of necessary air and moisture.

5

The writer wants to include information from the graph that is consistent with the description of compost in the passage. Which choice most effectively accomplishes this goal?

A) NO CHANGE
B) 6 million tons of rubber and leather
C) 10 million tons of textiles
D) 33 million tons of food waste

6

The writer wants to support the paragraph's main idea with accurate, relevant information from the graph. Which choice most effectively accomplishes this goal?

A) NO CHANGE
B) more metal
C) more food waste
D) more yard waste

7

A) NO CHANGE
B) worse than
C) worse then
D) worse, than

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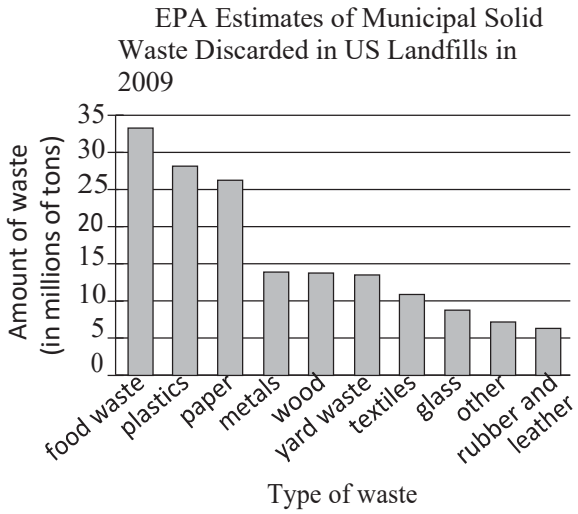
CONTINUE

As a result, organic material that is sent to landfills

8 contribute to the release of methane, a very

9 potent greenhouse gas.



Adapted from Food Waste Disposal. ©n.d. by Food Waste Disposal, LLC.

8

A) NO CHANGE
B) are contributing
C) contributes
D) have contributed

9

A) NO CHANGE
B) sturdy
C) influential
D) commanding

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CONTINUE

10 While composting can sometimes lead to accidental pollution through the release of methane gas, cities such as San Francisco and Seattle have instituted mandatory composting laws requiring individuals and businesses to use separate bins for compostable waste. This strict approach may not work everywhere. However, given the clear benefits of composting and the environmental costs of not composting, all municipalities should encourage their residents either to create their own compost piles for use in backyard gardens 11 or to dispose of compostable materials in bins for collection.

10

Which choice provides the most effective transition from the previous paragraph?

A) NO CHANGE
B) Though government regulations vary,
C) Armed with these facts,
D) Mindful of this setback,

11

A) NO CHANGE
B) nor
C) but
D) and

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Questions 12-22 are based on the following passage.

A Lion's Share of Luck

It's the beginning of February, and as they do every year, thousands of people line H Street, the heart of Chinatown in Washington, DC. The crowd has gathered to celebrate Lunar New Year. The street is a sea of 12 red. Red is the traditional Chinese color of luck and happiness. Buildings are 13 draped with festive, red, banners, and garlands. Lampposts are strung with crimson paper lanterns, which bob in the crisp winter breeze. The eager spectators await the highlight of the New Year parade: the lion dance.

Experts agree that the lion dance originated in the Han dynasty (206 BCE–220 CE); however, there is little agreement about the dance's original purpose. Some evidence suggests that the earliest version of the dance was an attempt to ward off an evil spirit; 14 lions are obviously very fierce. Another theory is that an emperor, upon waking from a dream about a lion, hired an artist to

12

Which choice most effectively combines the sentences at the underlined portion?

A) red,
B) red; in addition, red is
C) red; in other words, red is
D) red, the color; that is

13

A) NO CHANGE
B) draped, with festive red banners,
C) draped with festive red banners—
D) draped with festive red banners

14

Which choice most effectively completes the explanation of a possible origin of the lion dance?

A) NO CHANGE
B) the evil spirit was called Nian.
C) villagers dressed in lion costumes to scare the spirit away.
D) the precise location of the village remains lost to history.

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CONTINUE

choreograph the dance. **15** The current function of the dance is celebration.

The lion dance requires the strength, grace, and coordination of two dancers, **16** both of whom are almost completely hidden by the elaborate bamboo and papier-mâché lion costume that they maneuver. One person operates the lion's head as the other guides the torso and tail. Many of the moves in the dance, such as jumps, rolls, and kicks, are similar to **17** martial arts and acrobatics. The dancers must be synchronized with the music accompanying the dance—drums, cymbals, and gongs that supply the lion's roar—as well as with each other.

15

Which choice most effectively concludes the paragraph?

A) NO CHANGE
B) It turns out that the origins of the lion dance are irrelevant.
C) Whatever its origins, today the lion dance is a joyous spectacle, a celebration of the promise of the New Year.
D) Things are different these days, of course.

16

A) NO CHANGE
B) of which both
C) both of them
D) both

17

A) NO CHANGE
B) the disciplines of martial arts and acrobatics.
C) martial artists and acrobats.
D) those in martial arts and acrobatics.

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CONTINUE

[1] While there are many regional variations of the lion dance costume, all make extensive use of symbols and colors. [2] The lion's head is often adorned with a phoenix 18 (a mythical bird) or a tortoise (for longevity). [3] Green lions encourage friendliness. [4] Golden and red lions represent liveliness and bravery, respectively. [5] Their older counterparts, yellow and white lions, dance more slowly and deliberately. [6] In some variations, lions of different colors are different ages, and they move accordingly. [7] Black lions are the youngest; therefore, they dance quickly and playfully. [8] The appearance of the lions varies, but their messageis consistent: Happy New Year. 19

18

Which choice provides information that is most consistent in style and content with the information about the symbolism of the tortoise?

A) NO CHANGE
B) (for new beginnings)
C) (from Chinese mythology)
D) (for symbolic reasons)

19

To make this paragraph most logical, sentence 5 should be placed

A) where it is now.
B) after sentence 1.
C) after sentence 3.
D) after sentence 7.

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CONTINUE

As the parade winds its way through Chinatown, the music crescendos, and the lion dance reaches **20** it's climax with the "plucking of the greens." Approaching a doorway in which dangles a red envelope filled with green paper money, the **21** lion's teeth snare the envelope. It then chews up the bills and spits out the **22** money-filled envelope instead of chewing it up. The crowd cheers for the lion dancers and for the prosperity and good fortune their dance foretells.

20

A) NO CHANGE
B) its
C) there
D) their

21

A) NO CHANGE
B) lion snares the envelope with its teeth.
C) envelope is snared by the lion with its teeth.
D) teeth of the lion snare the envelope.

22

A) NO CHANGE
B) envelope that had been dangling from the doorway.
C) envelope that had the money in it.
D) envelope.

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CONTINUE

Questions 23-33 are based on the following passage.

Court Reporting: Humans v. Machines

Court reporters for years have been the record keepers of the court, taking 23 scrupulous notes during 24 hearings; depositions, and other legal proceedings. Despite the increasing use of digital recording technologies, court reporters still play a vital role in

23

Which choice best fits with the tone of the rest of the passage?

A) NO CHANGE
B) super-rigorous
C) spot-on
D) intense

24

A) NO CHANGE
B) hearings; depositions;
C) hearings, depositions,
D) hearings, depositions;

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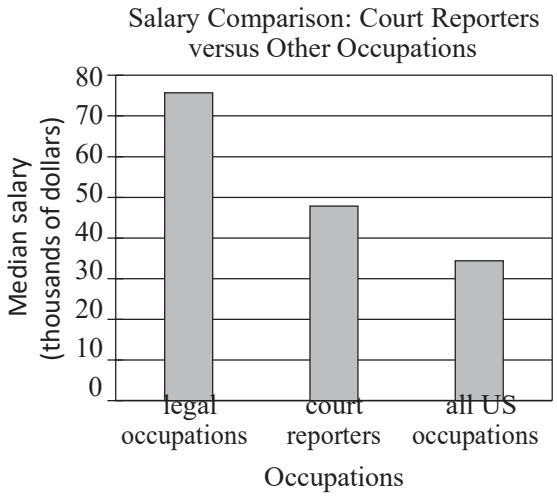
CONTINUE

courtrooms. 25 Although machines can easily make digital audio recordings of court events, they lack the nuance of human court reporters in providing a precise record.

[1] Court reporters record the spoken word in real time, most commonly using the technique of stenography. [2] A stenotype machine allows a person totype about 200 words per minute (the speed of speech is about 180 words per minute). [3] The typed words are instantaneously translated onto a computer screen for the judge to view, and the transcript is used later by people who want to review the case, such as journalists and lawyers. [4] Digital audio recording is becoming increasingly popular in courtrooms across the United States, with six states using solely audio recordings for

25

At this point, the writer is considering adding the following graph.



Adapted from Bureau of Labor Statistics, US Department of Labor, *Occupational Outlook Handbook, 2014–15 Edition*.

Should the writer make this addition here?

A) Yes, because it supports the claim that court reporting is an important part of a trial.

B) Yes, because it offers a relevant counterpoint to the argument that the use of digital recorders is on the rise.

C) No, because it presents information that is not directly related to the paragraph's discussion of the role of court reporters.

D) No, because it does not provide information about the pay scale for more experienced court reporters.

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CONTINUE

general jurisdiction sessions. [5] Proponents of going digital say that technology is the easiest way to get the most accurate record of the proceedings, as the machinerecords everything faithfully as it occurs and is not **26** subject to human errors such as mishearing or mistyping. [6] However, with the rise of high-quality recording technology, reliance on court reporters **27** as a record keeper is decreasing. **28**

26

A) NO CHANGE
B) subjected to
C) subjected from
D) subject for

27

A) NO CHANGE
B) each as record keepers
C) as record keepers
D) to be a record keeper

28

To make this paragraph most logical, sentence 6 should be placed

A) where it is now.
B) after sentence 1.
C) after sentence 3.
D) after sentence 4.

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CONTINUE

Champions of court reporting, though, argue the 29 opposite. They argue that with the increased reliance on technology, errors actually increase. Because digital systems record 30 indiscriminately; they cannot discern important parts of the proceedings from other noises in the courtroom. 31 Despite this, a digital device does indeed record everything, but that includes loud noises, such as a book dropping, that can make the actual words spoken impossible to hear. A court reporter, however,

29

Which choice most effectively combines thesentences at the underlined portion?

A) opposite, such
B) opposite—
C) opposite, which is
D) opposite; their opinion is

30

A) NO CHANGE
B) indiscriminately, they
C) indiscriminately. They
D) indiscriminately, therefore they

31

A) NO CHANGE
B) In other words,
C) Therefore,
D) Consequently,

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CONTINUE

can distinguish between the words 32 and distinguish between the extrinsic noises that need not be recorded. Also, if a witness mumbles, a human court reporter can pause court proceedings to ask the witness to repeat whathe or she said. In some cases, digital recording 33 makesit necessary for the judge to make additional announcements at the beginning of a trial. Increasing use of technology is "a transition from accurate records to adequate records," says Bob Tate, president of the Certified Court Reporters Association of New Jersey.

Despite the apparent benefits of using digital recording systems in courtrooms, there is still a need for the human touch in legal proceedings. At least for the foreseeable future, machines simply cannot replicate the invaluable clarification skills and adaptability of human court reporters.

32

A) NO CHANGE
B) also between the
C) and when there are
D) and the

33

Which choice provides the best supporting example for the main idea of the paragraph?

A) NO CHANGE
B) requires a courtroom monitor to ensure the equipment is functioning properly.
C) leads to changes in the roles and duties of several members of the courtroom staff.
D) has led to the need for retrial because of indistinct testimony from key witnesses.

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CONTINUE

Questions 34-44 are based on the following passage.

Fire in Space

On Earth, fire provides light, heat, and comfort. Its creation, by a process called combustion, requires a chemical reaction between a fuel source and oxygen. The shape that fire assumes on Earth is a result of gravitational influence and the movement of molecules. In the microgravity environment of space, **34** moreover, combustion and the resulting fire behave in fundamentally different ways than they do on Earth—differences that have important implications for researchers.

A group of engineering students from the University of California at San Diego (UCSD), for example, **35** triedto find a method to make their biofuel combustion study(fuels derived from once-living material) free of the drawbacks researchers face on Earth. The standard method involves burning droplets of fuel, but Earth's gravitational influence causes the droplets to lose

34

A) NO CHANGE
B) however,
C) accordingly,
D) subsequently,

35

A) NO CHANGE
B) strove for a method to make their study of biofuel combustion
C) looked for a method to study biofuel combustion
D) sought a method to study combustion of biofuels

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CONTINUE

spherical symmetry while burning. This 36 deformation results in subtle variations in density that both 37 causes uneven heat flow and limits the size of the droplets that can be tested. Specially designed "drop towers" 38 built for this purpose reduce these problems, but they provide no more than 10 seconds of microgravity, and droplet size is still too small to produce accurate models of combustion rates. 39 The UCSD students understood that these limitations had to be surmounted. As part of the program, researchers fly their experiments aboard aircraft that simulate the microgravity environment of space. The aircraft accomplish this feat by flying in parabolic paths instead of horizontal ones. On the plane'sascent, passengers feel twice Earth's gravitational pull, butfor brief periods at the peak of the trajectory,

36

Which choice provides the most precise description of the phenomenon depicted in the previous sentence?

A) NO CHANGE
B) alteration
C) transformation
D) modification

37

A) NO CHANGE
B) cause uneven heat flow and limit
C) cause uneven heat flow and limits
D) has caused uneven heat flow and has limited

38

A) NO CHANGE
B) intended for this use
C) constructed for this function
D) DELETE the underlined portion.

39

Which choice provides the most effective transition between ideas in the paragraph?

A) NO CHANGE
B) The UCSD group sought to overcome these difficulties by participating in NASA's Microgravity University program.
C) The engineering group realized that aircraft might be the tools they were looking for.
D) Thus, for the UCSD group, drop towers were not an adequate solution.

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CONTINUE

40 "weightlessness" or microgravity similar to what is experienced in space, is achieved.

These flights allowed the UCSD students to experience microgravity 41 . Specifically, they 42 investigated the combustion of biofuel droplets in microgravity for twice as long as could be accomplished

40

A) NO CHANGE
B) "weightlessness" or microgravity, similar to what is experienced, in space
C) "weightlessness" or, microgravity, similar to what is experienced in space
D) "weightlessness," or microgravity similar to what is experienced in space,

41

At this point, the writer is considering adding the following.

and perform their experiment without traveling into space

Should the writer make this addition here?

A) Yes, because it elaborates on the advantage the students gained from the flights.
B) Yes, because it reveals that the students did not actually go into space, a point that the previous paragraph does not address.
C) No, because it shifts focus away from the students' experiences while on the flights.
D) No, because it restates what has already been said in the sentence.

42

A) NO CHANGE
B) could investigate
C) were investigating
D) were able to investigate

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CONTINUE

in drop towers and to perform tests with larger droplets. The larger, 43 spherically symmetric droplets burned longer and gave the students more reliable data on combustion rates of biofuels because the droplets' uniform shape reduced the variations in density that hinder tests performed in normal gravity. The students hope the new data will aid future research by improvingtheoretical models of biofuel combustion. Better combustion-rate models may even lead to the productionof more fuel-efficient engines and improved

44 techniques, for fighting fires in space or at future outposts on the Moon and Mars.

43

Which choice most effectively establishes that the UCSD students' approach had solved a problem, mentioned earlier in the passage, relating to burningfuel on Earth?

A) NO CHANGE
B) combustible
C) microgravity-influenced
D) biofuel-derived

44

A) NO CHANGE
B) techniques for fighting fires, in space or at future outposts
C) techniques for fighting fires in space or at future outposts
D) techniques for fighting fires in space, or at future outposts,

STOP

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6