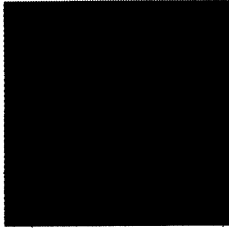


Form Z15

(April 2019)

E/R



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2019

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ENGLISH TEST

45 Minutes—75 Questions

DIRECTIONS: In the five passages that follow, certain words and phrases are underlined and numbered. In the right-hand column, you will find alternatives for the underlined part. In most cases, you are to choose the one that best expresses the idea, makes the statement appropriate for standard written English, or is worded most consistently with the style and tone of the passage as a whole. If you think the original version is best, choose "NO CHANGE." In some cases, you will find in the right-hand column a question about the underlined part. You are to choose the best answer to the question.

You will also find questions about a section of the passage, or about the passage as a whole. These questions do not refer to an underlined portion of the passage, but rather are identified by a number or numbers in a box.

For each question, choose the alternative you consider best and fill in the corresponding oval on your answer document. Read each passage through once before you begin to answer the questions that accompany it. For many of the questions, you must read several sentences beyond the question to determine the answer. Be sure that you have read far enough ahead each time you choose an alternative.

PASSAGE I

The Cable Car Lady's San Francisco Feat

San Francisco is famous for its cable cars. In operation since 1873, passengers travel through town on cable cars, moving and gripping a cable that is constantly¹ in motion just below the street. Their old-fashioned look

and open-air seating have made them a tourist favorite. 2

They likely would have ceased operating, however, if it³ hadn't been for Friedel Klussmann.

1. A. NO CHANGE
B. a person can travel through town on cable cars, which move by
C. passengers travel through town on cable cars, which move by
D. cable cars transport passengers through town, moving by
2. If the writer were to delete the preceding sentence, the paragraph would primarily lose:
F. an indication of how long cable cars have been in use.
G. details that show the appeal of cable cars.
H. information about how cable cars move.
J. a brief overview of the cable car system.
3. A. NO CHANGE
B. operating; however, if
C. operating. However, if
D. operating, however. If



In January 1947, San Francisco mayor Roger Lapham proposed a plan to rid the city of cable cars. The cars, he argued, posed a safety threat because the cables were old and might snap, resulting in a runaway car. [A] They were also a financial burden on the city. [B] He proposed replacing the cable cars with buses that would operate reliably, on the steep streets of San Francisco, and⁴ be profitable. [C] Klussmann, the president of the

San Francisco Federation of the Arts, and she was⁵ a fan of cable cars, was unconvinced. In March 1947, Klussmann called a meeting of the leaders of twenty-seven women's civic groups, forming the Citizens Committee to Save the Cable Cars. [D] Led by Klussmann, a fan of cable cars,⁶ the group rebutted the mayor's arguments in a press release. Cable cars were safe, they argued; in fact, cable cars caused fewer accidents than did buses.⁷ Additionally, cable

cars made money for the city by commending⁸

tourism. 9

4. F. NO CHANGE
G. buses that would operate reliably on the steep streets of San Francisco
H. buses, that would operate reliably, on the steep streets of San Francisco,
J. buses, that would operate reliably on the steep streets of San Francisco
5. A. NO CHANGE
B. Arts; Klussmann was
C. Arts, she was
D. Arts and
6. F. NO CHANGE
G. Klussmann, who was unconvinced by the mayor's plan,
H. Klussmann, the group's leader,
J. Klussmann,
7. A. NO CHANGE
B. fewer accidents than
C. a few accidents than
D. less accidents then
8. F. NO CHANGE
G. encouraging
H. sanctioning
J. reassuring
9. The writer wants to divide this paragraph into two in order to separate Lapham's arguments from Klussmann's response to them. The best place to begin the new paragraph would be at:
A. Point A.
B. Point B.
C. Point C.
D. Point D.

1 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ 1

[1] With the signatures over 50,000 supporters, the committee's amendment was granted a spot on the ballot that November. [2] Still, the mayor wanted to scrap the cable cars. [3] Klussmann realized that the best way to protect the cable cars would be to pass an amendment to the city charter and the city would be required to

retain them. 12

Two days before the election, Klussmann put signs from a previously eliminated cable car route on a cable car, which she (Klussmann) then paraded through town to remind San Franciscans of what was at stake. On

election day, her efforts paid off. Many voters supported the amendment to save the cable cars. "The Cable Car

Lady" (as Klussmann came to be known), had won.

10. F. NO CHANGE
G. around
H. of
J. as

11. A. NO CHANGE
B. charter and the amendment would require the city
C. charter that would require the city
D. charter, it would require the city

12. Which sequence of sentences makes this paragraph most logical?
F. NO CHANGE
G. 2, 3, 1
H. 2, 1, 3
J. 1, 3, 2

13. A. NO CHANGE
B. then paraded through the town of San Francisco
C. then paraded through the town after that
D. then paraded through town

14. The writer is considering revising the underlined portion to the following:

Seventy-seven percent of

Given that the information is accurate, should the writer make this revision?

- F. Yes, because it specifically shows how much support the amendment received.
G. Yes, because it emphasizes that Klussmann's campaign had to overcome a lot of opposition.
H. No, because the sentence indicates the outcome of the election without this revision.
J. No, because it underscores the fact that Klussmann's campaign wasn't entirely successful.

15. A. NO CHANGE
B. Lady," (as Klussmann came to be known),
C. Lady," as Klussmann came to be known,
D. Lady," as Klussmann came to be known

PASSAGE II

Ringling in Harmony

Barbershop music—four voices singing in perfect harmony, without instrumental accompaniment—can be traced back to late nineteenth-century African American barbershops. While waiting for a haircut, a patron might

16. F. NO CHANGE
G. harmony without instrumental accompaniment—
H. harmony—without instrumental accompaniment,
J. harmony, without instrumental accompaniment



have improvised a melody. Two or three other customers would then harmonize higher or lower than the melody to create a song. [A] This pastime eventually became a widely known genre of music that's traditionally characterized by four men singing in red-and-white-striped suits and straw hats. [B] The songs usually have simple melodies and honeyed titles like "Let Me Call You Sweetheart" and "Sweet Adeline." [C] Barbershop music has many distinctive qualities; however, enthusiasts say the

music's true thrill, all in the acoustical effect called the ringing chord, or overtone. [D] Produced when all four voices perfectly combine to create the impression (hence the term "overtone") of a fifth note rising above the rest, the ringing chord is an acoustic phenomenon. Highly coveted, the ringing chord elicits what barbershoppers describe as emotional responses that are hair raising, skin prickling, and a tingling of the spine. 22

17. A. NO CHANGE
B. higher or lowest than
C. higher or lower then
D. high or low then
18. The writer is considering deleting the underlined portion (adjusting the punctuation as needed). Should the underlined portion be kept or deleted?
F. Kept, because it provides examples of song titles that help illustrate the style of the genre.
G. Kept, because the song titles help explain why barbershop music is traditionally unaccompanied.
H. Deleted, because it offers information that is redundant and not necessary for comprehension.
J. Deleted, because it detracts from the discussion of the historical origins of barbershop quartets.
19. A. NO CHANGE
B. thrill, which is
C. thrill, it is
D. thrill is
20. Which of the following placements for the underlined portion would most clearly support the definition of a ringing chord?
F. Where it is now
G. After the word *combine*
H. After the word *rest* (and before the comma)
J. After the word *chord*
21. Which choice best maintains the descriptive pattern established in the list of emotional responses?
A. NO CHANGE
B. and spine tingling.
C. and spinal tingles.
D. etc.
22. The writer wants to divide this paragraph into two in order to separate the description of barbershop music in general from a focus on one specific characteristic of the genre. The best place to begin a new paragraph would be at:
F. Point A.
G. Point B.
H. Point C.
J. Point D.

1 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ 1

Quartets can only achieve this “angel’s voice,” nevertheless, with proper breath support and precise vocal technique. Collaboration is

also crucial; each participant must listen to the

others to sing flawlessly, tuned notes. When the singers each hold a different pitch-perfect note at the correct harmonic interval, the variations in frequencies in their voices overlaps. These audible frequencies

above and below the four voices create the illusion of a fifth voice.

Few modern instruments can create this effect because of slight tuning imperfections. Keyboards, for example, are tuned such that a piece of music sounds equally good in any key, though this prevents frequencies from interacting and overlapping (necessary to “ring a chord”). Beyond honoring tradition, then: barbershoppers would be

wary of adding instruments that might compromise the beloved ringing chord.

23. A. NO CHANGE
B. voice,” regardless,
C. voice,” besides,
D. voice”

24. F. NO CHANGE
G. crucial. As
H. crucial,
J. crucial

25. A. NO CHANGE
B. sing flawlessly tuned
C. sing: flawlessly tuned
D. sing, flawlessly tuned,

26. F. NO CHANGE
G. has overlaps.
H. overlapping.
J. overlap.

27. A. NO CHANGE
B. delusion
C. allusion
D. elusion

28. F. NO CHANGE
G. tradition—then
H. tradition, then,
J. tradition; then

29. A. NO CHANGE
B. petrified about
C. suspecting of
D. frugal with



Question 30 asks about the preceding passage as a whole.

30. Suppose the writer's main purpose had been to describe the various stages in the development of a genre of music. Would this essay accomplish that purpose?
- F. Yes, because the writer discusses the origins of barbershop music along with present-day reactions to the genre.
 - G. Yes, because the writer describes how a defining characteristic of barbershop music has evolved over time.
 - H. No, because while the writer mentions the origins of barbershop music, the main focus is on a characteristic of the genre.
 - J. No, because the writer focuses on the emotional rather than historical features of barbershop music.

PASSAGE III

Master Paper Portrait Cutter

In crowded New York City subway stations, violinists rarely turn heads, dance troupes spin by unnoticed, and singers often serenade only themselves. But subway artist, Ming Liang Lu, who in 2012 is creating his delicate work at the foot of a Union Square staircase, attracts attention. He's a self-described "master paper portrait cutter," transforming the centuries-old traditional Chinese art of paper cutting ³¹ 32 by focusing on an

untraditional subject, it's the human face. ³³

31. A. NO CHANGE
B. artist Ming Liang Lu,
C. artist, Ming Liang Lu
D. artist Ming Liang Lu
32. Given that all the following parenthetical phrases are accurate, which one, if added here, would provide the most relevant information at this point in the essay?
- F. (though he also teaches calligraphy at the New York Chinese Cultural Center on the weekends)
 - G. (he claims that the noise of the subway doesn't bother him)
 - H. (which usually depicts animals and flowers)
 - J. (an art that requires few tools)
33. A. NO CHANGE
B. subject;
C. subject;
D. subject



[1] Lu flags down a passerby who has an intriguing face offering to create a tiny silhouette portrait, needing just a small piece of black paper, razor-sharp scissors, and a few minutes. [2] The model often buys the portrait with a small fee. [3] Many commuters, so taken by the art, and have missed morning trains to have their own likenesses cut. [4] If not, Lu pins it to a white foam board, which has whose outlines pop out crisply in black.

Lu begins a portrait by folding a four-by-six-inch rectangle of paper in half and asking them to stand still facing him. He first cuts into the folded edge, carving paper away to shape the model's main facial features, including eyes, nose, and lips. Lu doesn't move the scissors as he works. Instead, he maneuvers the paper along the slightly open scissor blades. [A] He then unfolds his creation, working with scissors to cut out eyebrows, wrinkles, and other details. [B] To finish, he shapes the outer contours of the face, such as the hair and jawline, letting the paper's border fall to the floor. [C] Lu often exaggerates a model's facial features for whimsical effect, but it's not as if his intentions are cruel.

34. F. NO CHANGE
G. having offered
H. that offers
J. and offers
35. A. NO CHANGE
B. using
C. given
D. for
36. F. NO CHANGE
G. art, and they
H. art that they
J. art,
37. A. NO CHANGE
B. board, placing it among the many faces on the board that
C. board, attaching it to this display that
D. board—a gallery of his work—which
38. For the sake of logic and cohesion, Sentence 4 should be placed:
E. where it is now.
G. before Sentence 1.
H. after Sentence 1.
J. after Sentence 2.
39. A. NO CHANGE
B. their model
C. his model
D. DELETE the underlined portion.
40. Which of the following alternatives to the underlined portion would NOT be acceptable?
E. edge, proceeding to carve
G. edge and begins to carve
H. edge, and carving
J. edge and carves
41. The writer wants to clearly reinforce and build upon the explanation of Lu's paper-cutting technique provided in the preceding two sentences. Which choice best accomplishes that goal?
A. NO CHANGE
B. chopping into the paper rapidly with his scissors
C. twisting and turning his scissors in his hand
D. swiveling the paper around the blades
42. Given that all the choices are true, which one most effectively leads the reader into the next sentence?
E. NO CHANGE
G. but each portrait bears an unmistakable resemblance to the model.
H. which is not surprising given that there is so much he is able to capture.
J. but his models, after having seen his portrait gallery, know what to expect.



Passersby, seeing Lu's board, sometimes even recognize people from their commute. [D] A bald ⁴³ man in sunglasses, a woman with dreadlocks, a girl wearing hoop earrings, a young boy smiling. One of Lu's admirers claimed that collectively Lu's paper cuttings ⁴⁴ arranged together create "a New York portrait." 45

- 43. A. NO CHANGE
B. recognize that a person
C. recognizes a person
D. recognizes people
- 44. F. NO CHANGE
G. assembled as a gallery
H. as a group
J. DELETE the underlined portion.
- 45. The writer wants to divide this paragraph into two in order to separate the explanation of Lu's process as he works on a paper portrait from the general discussion of highlights and notable characteristics of Lu's work. The best place to begin the new paragraph would be at:
A. Point A.
B. Point B.
C. Point C.
D. Point D.

PASSAGE IV

Quick-Change Artist

Cephalopods are smart creatures in general. But *Thaumoctopus mimicus*—the mimic octopus discovered ⁴⁶ in the estuaries of Indonesia and Malaysia in 1998, exhibits an almost eerie level of intelligence. It appears to be the first known animal who's repertoire of sophisticated ⁴⁷ deceptive behaviors enables it to imitate multiple animals.

The mimic octopus's habitat, a largely featureless expanse rich in worms, echinoderms, crustaceans, and fishes, is equally rich in predators. ⁴⁸ With few places to hide, the mimic, like many other cephalopods are dependent on deception for survival. ⁴⁹

- 46. E. NO CHANGE
G. *mimicus*,
H. *mimicus*;
J. *mimicus*
- 47. A. NO CHANGE
B. whom a
C. whose
D. that's
- 48. F. NO CHANGE
G. fishes, which is
H. fishes, and
J. fishes
- 49. A. NO CHANGE
B. cephalopods which depend
C. cephalopods, dependent
D. cephalopods, depends

Its lack of a skeleton allows it to change shape, while

50

chromatophores, tiny sacs of yellow, brown, red, or black pigment located just under the skin, allow it to change color and pattern in less than a second. Unlike most cephalopods, though, this octopus imitates the behavior of other animals as well.

When slowly foraging along the seafloor, probing holes with its arms, trapping prey in its flared web. The mimic typically avoids notice. It assumes a drab,

52

brown color, blending in with the silt and sand.

53

But as speed increases, it morphs into the teardrop shape of a flatfish, arms trailing behind. Scientists debate

54

whether, in the end, the octopus's final, ultimate goal is to mimic the toxic sole or the unpalatable flounder.

55

Additionally, the octopus's intentions appear more certain: when a territorial damselfish is present, for

56

example, the octopus imitates the fish's predator, a venomous banded sea snake. It plunges six arms and its

57

body into the sand, displays a banded black-and-white color pattern, and waves the two free arms in opposite directions. The gesture appears quite effective in warding off an attack.

58

50. F. NO CHANGE
G. Its lacking of a
H. It's lack in
J. Its lack in

51. If the writer were to delete the underlined portion (adjusting the punctuation as needed), the paragraph would primarily lose:
A. a definition of chromatophores and an indication of their location.
B. an explanation of particular features that permit dramatic changes in shape.
C. a visual description of the texture of the mimic octopus's skin.
D. an indication of the rapidity with which the chromatophores can change the octopus's color.

52. F. NO CHANGE
G. web, which the
H. web, the
J. web the

53. A. NO CHANGE
B. with similar brown hues of the sandy seafloor's
C. to appear much like the color of the
D. by displaying the brown color of

54. F. NO CHANGE
G. as the acceleration of the octopus increases,
H. when the rate of movement increases,
J. as the octopus picks up speed,

55. A. NO CHANGE
B. with much discussion as to if the octopus's intent
C. if the octopus's intentional aim
D. whether the octopus's aim

56. F. NO CHANGE
G. Sometimes, the
H. However, the
J. The

57. A. NO CHANGE
B. predator. A
C. predator; a
D. predator a

58. Which choice most clearly indicates that the octopus uses the black-and-white color pattern to appear threatening?
F. NO CHANGE
G. brandishes
H. shifts to
J. adopts



As yet, scientists have minimal video footage of the mimic octopus, and the momentary glimpses afforded by still photos offered inconclusive evidence for claims about the extent of the octopus's capabilities. Some argue it can mimic up to fifteen species. Others remain unconvinced. Nearly all, however, are awed by its ingenuity.

59. A. NO CHANGE
B. has offered
C. offers
D. offer

Question 60 asks about the preceding passage as a whole.

60. Suppose the writer's primary purpose had been to focus on a particular animal's use of deception for predatory purposes. Would this essay accomplish that purpose?
- F. Yes, because it asserts that although there is some debate about the octopus's intentions, most scientists agree that it is an ingenious predator.
G. Yes, because it explains how the mimic octopus uses imitation while foraging.
H. No, because it describes the mimic octopus's deception more as a general tool for survival than as a means of pursuing prey.
J. No, because it focuses primarily on how the mimic octopus's deceptive strategies compare to those of other cephalopods.

PASSAGE V

As Light as Pavlova

In the 1920s, Anna Pavlova, Russia's premier ballerina, toured Australia and New Zealand, firing the imaginations of dancers, patrons of ballet, and chefs who found inspiration. Few doubt that the meringue

⁶¹

dessert known as the pavlova, was created to honor the world-famous dancer. Both Australia and New Zealand,

⁶²

likewise, lay claim to being first to celebrate

⁶³

their luminous costumes and light-footed dancing with puffy clouds of meringue.

⁶⁴

61. A. NO CHANGE
B. chefs were inspired by her.
C. as were chefs.
D. even chefs.
62. F. NO CHANGE
G. dessert, and known as the *pavlova*,
H. dessert, known as the *pavlova*
J. dessert known as the *pavlova*
63. A. NO CHANGE
B. granted nevertheless,
C. therefore,
D. though.
64. F. NO CHANGE
G. those
H. her
J. its



In 1935, Chef Herbert Sachse of the Hotel Esplanade

in Perth, Australia, commemorated Pavlova's tour with a
⁶⁵
dessert he hoped would be as ethereal and delicate as
her movements onstage. He started by making a

marshmallow-like base of fluffy meringue, it's a
⁶⁶
blend of whipped egg whites and sugar. He filled the
sunken center of the baked meringue with mounds of
whipped cream, swirled to suggest a spinning ballerina.
⁶⁷
Because Pavlova's tutu had been speckled with green

silk roses, he covered the cream with sliced
⁶⁸
kiwifruit. To the hotel guests to whom Sachse

first served this delicacy, he went, "It is as light
⁶⁹

as Pavlova." 70

New Zealanders, however, believe that a dessert
was served, very similar to Sachse's confection also
⁷¹
in honor of Anna Pavlova, at a hotel in Wellington,
New Zealand, as early as 1926. Sachse himself said
that his own meringue dessert was a fanciful adaptation
of a recipe for "meringue cake" that he had found in a

65. Which word choice most clearly connotes that Sachse created his dessert for the purpose of honoring Pavlova's tour?
- A. NO CHANGE
 - B. authenticated
 - C. emblazoned
 - D. initiated
66. F. NO CHANGE
G. meringue, a
H. meringue; a
J. meringue. A
67. Which choice most clearly emphasizes that Sachse deliberately shaped his dessert to mimic the form and movement of Pavlova as a dancer?
- A. NO CHANGE
 - B. twirled within the meringue base.
 - C. almost reminiscent of a ballerina.
 - D. made fresh for the dessert.
68. Which choice best conveys that Sachse's placement of kiwifruit on his dessert mimicked the arrangement of green silk roses on Pavlova's tutu?
- F. NO CHANGE
 - G. wrapped
 - H. dotted
 - J. lined
69. A. NO CHANGE
B. proclaimed,
C. procured,
D. told,
70. Which of the following true sentences would most effectively lead the reader from this paragraph to the next paragraph?
- F. And about Pavlova one commentator wrote, "She does not dance; she soars as though on wings."
 - G. And so the dessert was invented and named, according to many Australians.
 - H. But the heart of the pavlova dessert, of course, is its baked meringue shell.
 - J. But before the dessert was served, the guests applauded Sachse.
71. The best placement for the underlined portion would be:
- A. where it is now.
 - B. after the word *that*.
 - C. after the word *dessert*.
 - D. after the year 1926 (and before the period).



magazine. That recipe had been contributed by “Rewa,
a woman from New Zealand.” ⁷²

The many variations of the dessert have allowed
both countries to call one of their own early recipes as
“the original pavlova.” ⁷³ But there were dozens of recipes
for pavlova in New Zealand cookbooks by 1940, the year
a pavlova recipe *first* appeared in an Australian cookbook.
Most culinary historians—and even the authoritative
Oxford English Dictionary—attribute the original
pavlova to New Zealand. Consequently, this artistic
⁷⁴ dessert generously adorns the national cuisine
of both countries.
⁷⁵

72. If the writer were to delete the preceding sentence, the essay would primarily lose information that:
- F. strongly supports New Zealand’s claim to the original pavlova recipe.
 - G. argues that “Rewa, a woman from New Zealand” created a “meringue cake” that was even more decadent than Sachse’s meringue dessert.
 - H. harshly criticizes Sachse’s decision to adapt a recipe he had found in a magazine.
 - J. provides facts about how Sachse typically found inspiration for new recipes for hotel guests.
73. A. NO CHANGE
B. make for
C. point to
D. refer
74. F. NO CHANGE
G. For the sake of clarity,
H. In addition,
J. Even so,
75. A. NO CHANGE
B. of both countries, those being Australia and New Zealand.
C. in Australia and New Zealand, those two countries.
D. DELETE the underlined portion and end the sentence with a period.

END OF TEST 1

STOP! DO NOT TURN THE PAGE UNTIL TOLD TO DO SO.

READING TEST

35 Minutes—40 Questions

DIRECTIONS: There are several passages in this test. Each passage is accompanied by several questions. After reading a passage, choose the best answer to each question and fill in the corresponding oval on your answer document. You may refer to the passages as often as necessary.

Passage I

LITERARY NARRATIVE: This passage is adapted from the essay "The Public Father" by Daphne Merkin (©2000 by The New York Times Company).

The narrator's father was Hermann Merkin, a widely known New York City philanthropist, who died in 1999.

I rarely visited my father at his office, where he worked as an investment banker, but I knew that its ongoing affairs were more crucial to him, in many ways, than the life he led at home—just as I knew that his public face as a philanthropist was easier to read than his private face as a father or husband. My father was an Orthodox Jew who had grown up in Leipzig, Germany; he remained committed to Jewish causes until his death, and his knowledge of the dizzying intricacies of Israeli politics was impressive. Throughout his life my father supported Jewish scholarship; he also helped endow the kosher kitchen at Mount Sinai, as well as the Merkin Concert Hall on West 67th Street (which is silent from Friday at sundown to Saturday at sundown, in observance of the Sabbath).

I consider him to have been something of an enigma—to himself, and certainly to his children. He was constitutionally secretive, and it would have been nice to be let in on the secret, to know what was going on in his busy, obsessive mind.

He wasn't the kind of father I would have ideally wished for, an image cobbled together from the paternal figures I warmed to on television or in the movies, attentive and playful and full of wise counsel. He wasn't invested in the homely details of my existence or those of my five siblings: I don't think he ever knew the name of any of my teachers, and he couldn't tell my friends apart. He didn't teach me to ride a bike (he couldn't ride one himself) or drive a car (he couldn't drive one himself). He didn't, in other words, lend himself to helping me master the world, the role often attributed to fathers in the developmental histories of daughters. He hadn't much use for feelings, which were what interested me the most, then as now. I couldn't go to him with my problems or my passions, partly because he spoke the language of businesslike resolution while I specialized in the articulation of finely honed conflict. On those infrequent times when I would

officially meet with him in his study—a room that bordered on the sacrosanct—to discuss some girlhood difficulty, I would invariably find myself cut off at the pass by his decisiveness. My habit of questioning everything wilted before his focus on the bottom line. Later I would find some of my relationship with him expressed in writer Franz Kafka's famous, importuning letter to his father, with its futile wish for a communion that doesn't exist.

These days I find myself looking for my father, as though now that he is gone I might still get to know him better. There are superficial associations: I saw a movie in which the Savoy Hotel in London was briefly featured, and I was immediately reminded of my father's fondness for it when he traveled on business. And there are deeper ones, as well: When I'm around people—especially men—who seem too obvious in their thought processes, I think with affection of my father's utterly idiosyncratic, curvy mind. I keep wondering what has happened to all the bits of information he stored in his head, the phrases he wrote down—in English, or Hebrew, or German, or French—with his ubiquitous, freshly sharpened No. 2 pencils on little white notepads. I found the combinations of things he scribbled in his vertical, almost mathematical handwriting—practical reminders mixed in with cerebral notations, isolated vocabulary words mixed in with stock quotes and dollar signs—invariably intriguing. Language meant a lot to him, and though I never shared his fondness for punsters or a certain kind of briskly witty columnist, I could see that he liked words to crackle on the page.

Since he wasn't given to communicating his emotions, I had to guess at them much of the time. In the end, I think he was genuinely different from other people, put together from strange and incongruous parts. I know he took pride in my being a writer, and I always enjoyed it when he came to literary gatherings, where he greeted everyone with relish, acting perfectly oblivious to anything ungenerous about him or my family that I might have written. He didn't, in fact, much care what other people thought of him—which struck me as both annoying and admirable, but made him socially unembarrassable. I miss his impersonal yet oddly reassuring presence in the world, sitting in a chair in his study filled with his scholarly books, his round bald head covered with a flat black crocheted

yarmulke. Write about me, he said, shortly before he died, squeezing my hand, which was his version of a hug. Did he mean it? And would he have recognized himself on the page?

1. A main theme of the passage is:
 - A. resignation; the narrator has long ago accepted the fact that her father was utterly indifferent to her.
 - B. resentment; the narrator explains that having a more supportive father would have aided her career.
 - C. longing; the narrator often yearned for connections with her father that were difficult for her to make.
 - D. redemption; the narrator has finally realized her father's deep sadness regarding their distant relationship.
2. The narrator's statement that she rarely visited her father at the office most strongly suggests:
 - F. her father's refusal to allow his children to play while he was working.
 - G. the tender, unspoken bond between the narrator and her father regardless of their differences.
 - H. the fundamental separation between her father's public life and his private life.
 - J. her father's comfort in private life as compared to discomfort in public life.
3. The narrator indicates that when she tried to discuss her life's difficulties with her father, she found his focus on which of the following to be particularly frustrating?
 - A. Seeking conflict
 - B. Examining emotions
 - C. Asking questions
 - D. Finding resolution
4. When the narrator states, "These days I find myself looking for my father" (line 48), she is most nearly referring to the fact that she has been:
 - F. relating certain places she sees or certain people she communicates with to her father.
 - G. deliberately searching for memories of her father through long discussions with his closest former colleagues.
 - H. trying to uncover her father's handwritten notes that analyze her work as a writer.
 - J. writing a series of articles and a short story about her feelings about her father.
5. The narrator most clearly illustrates her father's "utterly idiosyncratic, curvy mind" (lines 56-57) by providing details about which of the following?
 - A. The hotels where he stayed while traveling on business
 - B. The regulations he placed on his endowments
 - C. The scribblings on his white notepads
 - D. The decor of his study
6. The narrator offers which of the following details as support for her claim that she knew her father took pride in her career as a writer?
 - F. Her father repeatedly told her that he was proud of her.
 - G. Her father recorded notes about her essays and articles in his notepads.
 - H. Her father encouraged her to commit herself to Jewish causes as a writer.
 - J. Her father happily attended the literary gatherings that were a part of her career.
7. In the last paragraph, the narrator characterizes her father most nearly as a:
 - A. famous banker who ultimately chose to focus on his private life instead of on his public life.
 - B. philanthropist who was as generous to his family with his time as he was to the public with his money.
 - C. businessman who was more difficult for his colleagues to understand than he was for his family to understand.
 - D. truly unique person who brought her comfort despite the often impersonal nature of their interactions.
8. The narrator describes which of the following as being "cobbled together" (line 22)?
 - F. Her feelings for her father
 - G. Her childhood image of an ideal father
 - H. Her self-identity when she was a young woman
 - J. Her understanding of her father's thought processes
9. The narrator makes clear that compared to her interest in exploring feelings when she was a girl, her interest in exploring feelings at the time the passage was written was:
 - A. much stronger.
 - B. slightly stronger.
 - C. about the same.
 - D. slightly weaker.
10. The narrator characterizes the talks she and her father had in his study about her life problems as:
 - F. impromptu chats that were infrequent but deeply fulfilling.
 - G. weekly appointments that were lighthearted and casual.
 - H. once-a-year events that were emotionally difficult.
 - J. occasional, prearranged meetings that had a serious tone.

Passage II

SOCIAL SCIENCE: This passage is adapted from the article "Raiders or Traders?" by Andrew Curry (©2008 by the Smithsonian Institution).

Norsemen have traditionally been seen as intrepid seafarers and fierce warriors. They traveled thousands of miles to the east and south: across the Baltic, onto the rivers of modern-day Russia and across the Black Sea to menace Constantinople.

All that wandering would have been impossible without ships. For most of the 20th century, archaeologists assumed that all Viking ships resembled a vessel excavated in Norway in 1880. Known as the Gokstad ship, for the farm on which it was found, it dated to the year 900. A replica was sailed across the Atlantic, from Norway to Chicago, for the 1893 World's Fair. But a discovery in 1962 forced researchers to abandon the idea that the Vikings had only one kind of ship.

At the bottom of a fjord near the Danish town of Roskilde, archaeologists found remnants of five Viking ships piled one atop the other. Dubbed the Skuldelev ships, for a nearby town, each had had a specialized role. One had been a fishing boat; two were cargo ships, so easy to handle that a crew of eight could move 20-ton loads; and one was a warship that could carry about 30 people. The fifth ship, a raider known as Skuldelev 2, was the biggest.

It was 98 feet long but 12 feet wide. Its keel reached just three feet below the surface, and its masts and sail could be lowered to approach fortifications and settlements with stealth.

Because only 20 percent of the Skuldelev 2 could be recovered, the only way to determine its capabilities for certain was to somehow resurrect and sail it. In 2000, researchers at the Viking Ship Museum in Roskilde began working with scientists to build an accurate replica. They used thousand-year-old methods and replicas of Viking tools, which meant carving each of the ship's 90 oak planks with axes, wedges, and hammers. After four years, the eight builders had their replica. They called it *Sea Stallion from Glendalough* for the Irish village where Vikings used to find oak for their ships. With its narrow beam (width) and shallow draft (the depth a ship extends below the waterline), the *Sea Stallion* could have navigated nearly any river in Europe. But how would it fare on the open sea?

In the summer of 2006, the *Sea Stallion* sailed under sunny skies and gentle winds from Roskilde to Norway and back in four weeks—a virtual pleasure cruise. A test sail in May 2007 around the Roskilde fjord enjoyed similar conditions. A tougher, six-week test was planned for July 2007, with the crew sailing from Roskilde north to Norway, west to Scotland and south to Dublin. Fully loaded, the ship weighed 24 tons—eight of ship, eight of rock for ballast (the weight used to steady a ship) and eight of crew and

gear. In ideal conditions, the *Sea Stallion* could travel 160 nautical miles a day; it could sprint at 13 knots, or almost 15 miles an hour. (A high-tech America's Cup racer might hit 20 knots.) "It ranks as one of the fastest warships in history," says Anton Englert, an archaeologist at the ship museum.

The ship set sail for Dublin on July 1, 2007, under dark skies that presaged Northern Europe's coldest and wettest summer in decades. Nighttime temperatures plunged below freezing. Three days into the voyage, two crew members had been treated for hypothermia; weak winds forced the *Sea Stallion* to take a 24-hour tow across part of the North Sea to stay on schedule.

After the six-week test, archaeologists at the ship museum in Roskilde began analyzing data generated during the voyage. High speeds over long distances pushed the ship to its limits—and challenged some assumptions about how the Skuldelev 2 had been put together. "The sails are very stable and can take a lot of wind, but problems with the rudder come up again and again, and haven't been solved yet," Englert says.

Information from the crew proved as valuable as technical data. Exhausted sailors told researchers that the close quarters made sleeping nearly impossible. Between the rough water, constant rain and their nautical duties, it was all crew members could do to nap for an hour or two during their rest periods. "That indicates the ship must have had an amphibious behavior—they had to land often just to get some rest," Englert says. Crossing the North Sea in a narrow ship like this one would have stretched a Viking crew almost to the breaking point, and crossing the Atlantic would have been inconceivable. A ship like this would have been used for coastal raiding.

11. Which of the following statements best summarizes the passage?

- A. The discovery of Viking ship remnants provided learning opportunities for researchers and scientists, particularly as they constructed a replica vessel and sailed it on test voyages.
- B. European researchers studied Viking ships and, with the help of a crew of scientists, built a replica of one using a mix of modern and ancient construction methods.
- C. After studying five ancient Viking ships, archaeologists learned that Norsemen were not as aggressive as had previously been believed.
- D. Historians and sailors have attempted to re-create the Vikings' Atlantic crossing by repairing and rebuilding a recently discovered ship.

12. Which of the following conclusions about the Vikings' knowledge of ship construction is best supported by the passage?
- F. They learned most of their shipbuilding skills from the Irish.
 - G. They could adapt a ship's size, design, and weight depending on its intended use.
 - H. They could build ships that didn't require rocks for ballast.
 - J. They could build ships strong enough to withstand powerful storms, but the ships were slow.
13. Based on the passage, the author would most likely agree with which of the following statements about the *Sea Stallion*?
- A. Post-trip analysis of the *Sea Stallion's* damage proved to be more valuable than interviews with its crew.
 - B. Building the *Sea Stallion* provided researchers with more technical data than sailing it had.
 - C. Difficulties with the *Sea Stallion's* rudder meant that the majority of the ship's design was flawed.
 - D. Questions about how Viking ships were used were partly answered by sailing the *Sea Stallion*.
14. The author compares the *Sea Stallion* to a high-tech racer most nearly to:
- F. explain how fast the replica could sail under poor conditions.
 - G. detail the different factors that contributed to the speed of most Viking ships.
 - H. emphasize the remarkable speed the replica could achieve.
 - J. identify in precise terms how fast most Viking ships could sail.
15. The passage indicates that until a discovery in 1962, researchers had mistakenly believed that Norsemen had:
- A. been known only for their sailing abilities.
 - B. sailed in only one kind of ship.
 - C. been aggressive fighters and conquerors.
 - D. crossed the Atlantic before any other explorers.
16. It can reasonably be inferred from the passage that one reason researchers constructed a replica of *Skuldelev 2* was that:
- F. the salvaged ship was too incomplete for an accurate understanding of how it was used.
 - G. they hoped to sail the ship in a race against more modern vessels.
 - H. they were determined to prove that they could build a better ship than could the Vikings.
 - J. scientists and researchers were unable to agree on the exact dimensions of the original ship.
17. According to the passage, the *Sea Stallion from Glendalough* was named after:
- A. a river in Europe that was difficult for Vikings to navigate.
 - B. a village where Vikings had found oak to build ships.
 - C. the location where *Skuldelev 2* had been discovered.
 - D. the fjord in which the crew of the replica would sail.
18. Compared to the *Sea Stallion's* trip in July 2007, the vessel's expedition in the summer of 2006 is described as a "virtual pleasure cruise" (lines 45–46) because that earlier voyage:
- F. took place during better weather and was shorter in duration.
 - G. allowed the crew more time to learn to appreciate the ship.
 - H. gave the sailors a better idea of what life was like for the Vikings.
 - J. traveled through calmer waters that allowed repairs to be made while sailing.
19. When Englert uses the phrase *amphibious behavior* (line 80), he is most nearly referring to the ship's:
- A. steady speed.
 - B. frequent landings.
 - C. ability to navigate rivers.
 - D. maneuverability in heavy rain.
20. According to the passage, a ship similar to the *Sea Stallion* would have been used by the Vikings for:
- F. crossing the Atlantic Ocean.
 - G. fishing in nearby fjords.
 - H. raiding coastal settlements.
 - J. training new sailing crews.

Passage III

HUMANITIES: Passage A is adapted from the article "The Animated Worlds of Basil Twist" by Eileen Blumenthal (©2005 by Theatre Communications Group). Passage B is adapted from the article "Dancing 'Like a Fish' in Underwater Puppet Theater" by Robert Greskovic (©2003 by Dow Jones and Company, Inc.).

Passage A by Eileen Blumenthal

"I feel like I'm a little old-fashioned," says master puppeteer Basil Twist.

Old-fashioned? Twist staged *Symphonie Fantastique* (1998) in a 1,000-gallon tank of water. For *Red Beads* (2005), he animated the scenery with electric fans, while live actors played the human characters. His puppets for both *Symphonie Fantastique* and *Petrushka* (2001) included unadorned lengths of fabric.

Actually, the contradiction is only skin-deep. Whatever techniques Twist uses for a particular show, the core for him is the age-old basis of puppetry: as he puts it, "animating—giving breath and soul—to something inanimate."

Thinking back to a festival he attended on the theme "music and puppetry," Twist recalls, "There was a lot of Baroque music played on strange instruments, but it wasn't a puppet show."

Twist decided he would create a visual equivalent of a musical work using totally abstract puppets—pieces of fabric, feathers, tinsel, poles, non-figurative cutouts. Light of varying color and intensity, sometimes smooth, sometimes in bursts, would underscore the emotion in the music. And—the clincher—he would get a sense of otherworldliness and (literal) fluidity by staging the show *underwater* in a giant tank. To animate this world, hidden puppeteers would work from the sides of the tank and suspended above it in harnesses.

Twist did temper the abstraction, in a way, by choosing Hector Berlioz's programmatic *Symphonie Fantastique*, which tells in music a story of an artist's obsession with a woman. But Twist chose the work despite rather than for its story. He liked the music's emotional richness and dramatic structure. And even for viewers who knew the "plot" (not mentioned in Twist's program), objects refused to have clear identities. The silk that swirled and swooped to a violin melody could be an image of the protagonist's beloved, or it could be his mood, or it could be a breeze. Or all of them. The rigid vertical forms could be a vision of prison bars, or a feeling of being pursued, or of being doomed. Or all of them.

Passage B by Robert Greskovic

In an attempt to define music-inspired choreography, George Balanchine suggested that "it was like an aquarium: music was all around and the dancer was like a fish." *Symphonie Fantastique*, Basil Twist's enchant-

ing, underwater presentation of puppet theater to Hector Berlioz's famed composition of the same name, takes such a thought at face value and swims to glory with it.

It's hard to suggest with words just what Twist's *Symphonie* does with the music and within the 1,000-gallon tank. Connections to Disney's 1940 animated film *Fantasia* come readily to mind, but the one-for-one, note-for-note Mickey Mouse emphasis favored by Disney's gifted animators isn't Twist's way; he works for a less literal, more free-spirited vision.

The cast of floating and swirling "characters" ranges from geometric, flat shapes to anthropomorphic figures, in the form of whisked lengths of fabric, unfurled sheets of cloth, and a variety of fringed pieces reminiscent of feathers, cheerleader pompons or angel-hair-like curtains of filament.

Berlioz's 1830 symphonic composition comes down to us shot through with impetuous passion. Its five movements each have poetic headings, "A Ball" and "Dream of a Witches' Sabbath," for example, and were further elaborated by the composer with specific program notes. Berlioz didn't insist on publishing the individual episodes he imagined, but he did want his movement titles printed whenever his symphony was played. Twist uses Berlioz's titles, but not the program notes. His fantastical symphony is storyless but by no means lacking in character, or even characters. Whenever the music's recurring theme is heard, suggesting the compelling beloved of the original narrative, Twist brings in his most gracefully swimming swath of white fabric, which variously takes the shape of an eel, a stingray or a wisp of smoke potent enough to cut through watery depths.

The aquatic world through which *Symphonie's* recurrent white figure winds, slips and streaks is rich with musically motivated activity. Sometimes, especially in the little pauses between movements, you can hear some sloshing from puppeteers readying their labors. Rather than distracting from the dreamlike nature of the silken proceedings, these signs of human activity help give the show an added gravity. If Twist's symphonic achievement were created by carefully edited animation it would be remarkable enough, but the fact that it's done live, by unseen manipulators working through water, makes his theatrical marvels all the more amazing.

Questions 21–23 ask about Passage A.

21. In Passage A, the author refers to *Red Beads* and *Petrushka* primarily to:
- indicate that Twist produced other puppet shows inspired by Berlioz.
 - provide examples of Twist's nontraditional approach to puppetry.
 - emphasize the differences between Twist's *Symphonie Fantastique* and his earlier work.
 - explain how prolific Twist has been as a puppeteer.
22. According to Passage A, which of the following items were used as puppets in Twist's *Symphonie Fantastique*?
- Poles
 - Tinsel
 - Electric fans
 - Lengths of fabric
- I, II, and III only
 - I, II, and IV only
 - II, III, and IV only
 - IV only
23. As it is used in line 35, the word *clear* most nearly means:
- luminous.
 - innocent.
 - definite.
 - legible.

Questions 24–27 ask about Passage B.

24. The author of Passage B regards Twist's *Symphonie Fantastique* with what could best be described as:
- distanced objectivity.
 - mild criticism.
 - open appreciation.
 - strong disappointment.
25. The author puts quotation marks around the word *characters* in line 57 most likely to:
- reveal the author's doubt that puppets can play realistic roles in theatrical performances.
 - highlight the eccentric personalities of Twist's puppets.
 - emphasize that Twist pushes the limits on what can be considered a character.
 - indicate that the term is taken directly from Balanchine.

26. According to Passage B, which of the following requirements, if any, did Berlioz specify regarding the use of his *Symphonie Fantastique*?
- Berlioz's story line should be featured whenever *Symphonie Fantastique* is played.
 - Berlioz's movement titles should be printed whenever *Symphonie Fantastique* is played.
 - Any adaptation of Berlioz's music should maintain the original title.
 - Berlioz made no specific requirements regarding the use of his compositions.
27. In lines 86–87, the phrase "signs of human activity" most nearly refers to:
- pulsating light.
 - sloshing sounds.
 - individual notes of music.
 - the human gracefulness of silk in water.

Questions 28–30 ask about both passages.

28. Which of the following statements best captures the main difference in the scope of information presented in the two passages?
- Passage A is a profile of Twist with particular attention to his *Symphonie*, while Passage B is a review of Twist's *Symphonie* itself.
 - Passage A is a critique of Twist's work as a whole, while Passage B is a persuasive piece on the importance of live theater.
 - Passage A is a biography discussing Twist's life and education, while Passage B is an argumentative piece about Twist's place among leading puppeteers.
 - Passage A is a historical overview of the uses of Berlioz's *Symphonie*, while Passage B is a comparison of Disney's *Fantasia* and Twist's *Symphonie*.
29. Compared to Passage A, Passage B includes more information about:
- Twist's aspirations as a puppeteer.
 - the development of Twist's career.
 - the dimensions of the water tank.
 - Berlioz's original symphony.
30. The authors of Passages A and B would most likely agree that the overall feeling Twist created in his *Symphonie* could best be described as:
- dreamlike.
 - tranquil.
 - confused.
 - melancholy.

Passage IV

NATURAL SCIENCE: This passage is adapted from the article "The Magic Forest: Where Poplars Are Purifying the Planet" by Dava Sobel (©2009 by Discover Media LLC).

A legacy of the Argonne National Laboratory's early foray into atomic energy lies buried here on its campus, about 25 miles southwest of Chicago. Although solid wastes from all sorts of experiments have been sealed in a landfill, certain liquids, mostly chlorinated solvents like trichloroethane, still taint the water that runs under the site. The ongoing attempt to remove these contaminants occupies an enormous experimental facility that covers four acres and looks like a forest.

"I like to brag that I have the biggest lab at Argonne," says agronomist Cristina Negri, indicating an expanse of 900 poplars and willows growing in rows. The trees stand about 30 feet high. More important, their roots extend 30 feet down, where they tap the contaminated aquifer and literally pull pollutants out of the ground.

Under normal circumstances, tree roots prefer to sip water from sources as close as possible to the surface. But these trees don't have that option. They are set into plastic-lined pits that force their roots to tunnel deep for drink. The roots lift the contaminated water into the tree trunks, where transport tissues conduct it on up to the branches and leaves. From there, as droplets transpire through leaf pores, the water evaporates and sunlight breaks down the dissolved solvent molecules, rendering them harmless.

Before the willows and poplars took over the job of wastewater management, Argonne was using extraction wells to pump contaminated water to a treatment plant. But the static mechanical pumps could not chase after groundwater that continually changed course through the complex terrain. The natural pump of a willow or poplar, on the other hand, is not only self-sustaining but so water-loving that it will snake down or fan out as far as need be to reach moisture.

Negri's trees each pump as much as 26 gallons of water per day at their summer peak. She measures the daily flow through the trunks by inserting probes that transmit data to solar-powered recorders mounted on tripods nearby.

In summer, trichloroethane levels generally run high (several thousand parts per billion), but in winter, after the leaves fall, the roots stop pumping and the bare branches bear no sign of contamination. Since the trees don't accumulate any permanent residue of pollution, they can eventually be chopped down and chipped, their remains distributed around other plantings for soil enrichment.

The technical term for this green, and increasingly prevalent, form of environmental cleanup is phytoremediation. At Argonne it will give way, over the next 20 to 30 years, to ecological restoration, as the pollutants are removed and the worker trees replaced by bur oaks and other hardwoods native to the Great Lakes region.

A second experimental forest, in Murdock, Nebraska, is helping the U.S. Department of Agriculture address the mess that it made in corn-belt communities during the 1960s, when storage drums full of grain were routinely fumigated with carbon tetrachloride to control pests. The colorless liquid seeped into the ground and continues even now to foul the local water supply.

When members of the Argonne team arrived at Murdock in 2004 for an initial assessment, they found trace levels of "carbon tet" in the resident vegetation. Their solution, implemented the next year, was to create an instant forest. Most of the 2,000 planted saplings were poplars and willows, the same types that had demonstrated their effectiveness in Illinois.

By 2007, two years after planting, the exact location of the underground plume of contamination could be mapped from the surface by examining the trees. Even in summer, trees in some areas tested clean while those in others were steadily bringing up carbon tetrachloride. Meanwhile, all the trees seemed to have enjoyed unusually rapid growth thanks to another pollutant in the Murdock soil: nitrate, possibly from fertilizers applied in the surrounding cornfields.

The compatibility of the forest and the fields conjures another poplar dream of combining remediation with energy production. Negri's colleagues have looked to the poplars as a possible source of ethanol for bio-fuel. The trees' need for plentiful water seemed at first to make them a poor choice, since water itself is likely to become scarce. But if the trees can slake their thirst with polluted water, and if they can grow on marginal land ill-suited for crops, then their promise as an alternate energy source grows doubly green.

31. The primary purpose of the passage is to:

- A. call attention to certain irresponsible waste disposal practices.
- B. spotlight an environmentally friendly way to clean up contaminated water.
- C. identify and describe several diverse uses for poplar and willow trees.
- D. explain how vegetation becomes contaminated by leaking landfills.

32. The main purpose of the first paragraph is to:
- F. illustrate how the Argonne National Laboratory generated waste from experiments.
 - G. explain why there is experimental work being done to remove contaminants at Argonne.
 - H. prove that the chlorinated solvents used at Argonne are harmful to the environment.
 - J. describe how contaminants leaked from a sealed landfill at Argonne.
33. According to the passage, the poplars and willows at Argonne are more efficient than extraction wells at removing contaminated water because the trees can:
- A. remove a greater variety of contaminants.
 - B. be planted on complex terrain.
 - C. pump more water by the hour.
 - D. seek out the contaminated water.
34. The main idea of the last paragraph is that poplars may eventually:
- F. grow on land ill suited for crops.
 - G. subsist purely on polluted water.
 - H. become resistant to pollutants.
 - J. become a viable source of energy.
35. According to the passage, the poplars and willows at Argonne are placed in plastic-lined pits in order to:
- A. prevent any pollutants absorbed by the trees from seeping into the surrounding soil.
 - B. stop other species of trees from growing in the Argonne forest.
 - C. force the trees' roots to tunnel deep for water.
 - D. make it easier for scientists to monitor the trees.
36. According to the passage, what ultimately happens to the contaminants in the trees at Argonne?
- F. They transpire through the trees' leaves and then break down in sunlight.
 - G. They are funneled to the trees' leaves, where they stay until the leaves fall to the ground in winter.
 - H. They leak out through the trees' branches, which bear no signs of contamination.
 - J. They remain in the trees until the trees are chopped down and chipped.
37. The passage states that contamination levels at Argonne generally run high during which season?
- A. Spring
 - B. Summer
 - C. Fall
 - D. Winter
38. According to the passage, what effect, if any, does Argonne's contaminated water have on the poplar and willow trees that absorb it?
- F. The trees must eventually be destroyed because they become contaminated.
 - G. The trees grow more rapidly than other trees in the area.
 - H. The trees show no permanent signs of pollution.
 - J. The trees develop tangled root systems.
39. Based on the passage, phytoremediation can best be described as:
- A. the practice of using trees to remove contaminants from the environment.
 - B. the practice of replanting native species in a formerly polluted area.
 - C. a process by which harmful contaminants leak into soil and groundwater.
 - D. a method of replacing poplar and willow trees in polluted areas with hardier trees.
40. The passage most strongly suggests that nitrate:
- F. can act as both a contaminant and a nutrient.
 - G. is difficult to clean up once it has entered soil.
 - H. has no effect on poplar and willow trees.
 - J. aids in the rapid growth of corn without damaging surrounding soil.

END OF TEST 3

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DO NOT RETURN TO A PREVIOUS TEST.

A.C.T. ANSWER KEY
April 2019 (EXT)

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7. B	47. C	7. A	47. D	7. D		7. B
8. G	48. F	8. G	48. J	8. G		8. G
9. C	49. D	9. A	49. D	9. C		9. D
10. H	50. F	10. F	50. G	10. J		10. J
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12. G	52. H	12. F	52. H	12. G		12. H
13. D	53. A	13. A	53. C	13. D		13. A
14. F	54. J	14. H	54. K	14. H		14. G
15. C	55. D	15. A	55. A	15. B		15. C
16. G	56. G	16. J	56. K	16. F		16. F
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18. F	58. G	18. F	58. G	18. F		18. H
19. D	59. D	19. E	59. C	19. B		19. B
20. H	60. H	20. H	60. G	20. H		20. J
21. B	61. D	21. E		21. B		21. A
22. H	62. J	22. K		22. G		22. H
23. D	63. D	23. D		23. C		23. D
24. F	64. H	24. K		24. H		24. J
25. B	65. A	25. C		25. C		25. D
26. J	66. G	26. F		26. G		26. H
27. A	67. A	27. B		27. B		27. A
28. H	68. H	28. H		28. F		28. J
29. A	69. B	29. D		29. D		29. B
30. H	70. G	30. J		30. F		30. H
31. B	71. C	31. E		31. B		31. C
32. H	72. F	32. H		32. G		32. J
33. B	73. C	33. E		33. D		33. A
34. J	74. J	34. G		34. J		34. F
35. D	75. A	35. C		35. C		35. B
36. J		36. F		36. F		36. F
37. A		37. D		37. B		37. C
38. J		38. G		38. H		38. F
39. C		39. E		39. A		39. D
40. H		40. J		40. F		40. G

Explanation of Procedures Used to Obtain Scale Scores from Raw Scores

On each of the four tests on which you marked any responses, the total number of correct responses yields a raw score. Use the table below to convert your raw scores to scale scores. For each test, locate and circle your raw score or the range of raw scores that includes it in the table below. Then, read across to either outside column of the table and circle the scale score that corresponds to that raw score. As you determine your scale scores, enter them in the blanks provided on the right. The highest possible scale score for each test is 36. The lowest possible scale score for any test on which you marked any responses is 1.

Next, compute the Composite score by averaging the four scale scores. To do this, add your four scale scores and divide the sum by 4. If the resulting number ends in a fraction, round it off to the nearest whole number. (Round down any fraction less than one-half; round up any fraction that is one-half or more.) Enter this number in the blank. This is your Composite score. The highest possible Composite score is 36. The lowest possible Composite score is 1.

ACT Test Z15	Your Scale Score
English	_____
Mathematics	_____
Reading	_____
Science	_____
Sum of scores	_____
Composite score (sum ÷ 4)	_____

NOTE: If you left a test completely blank and marked no items, do not list a scale score for that test. If any test was completely blank, do not calculate a Composite score.

Scale Score	Raw Scores				Scale Score
	Test 1 English	Test 2 Mathematics	Test 3 Reading	Test 4 Science	
36	74-75	59-60	40	39-40	36
35	71-73	57-58	39	38	35
34	70	56	38	37	34
33	68-69	55	37	36	33
32	67	54	36	35	32
31	66	53	35	34	31
30	65	52	34	—	30
29	63-64	50-51	33	33	29
28	62	47-49	32	32	28
27	60-61	44-46	31	31	27
26	58-59	41-43	30	30	26
25	56-57	39-40	29	28-29	25
24	53-55	36-38	28	26-27	24
23	50-52	34-35	26-27	25	23
22	47-49	32-33	24-25	23-24	22
21	44-46	30-31	23	21-22	21
20	41-43	29	21-22	19-20	20
19	39-40	26-28	20	18	19
18	37-38	23-25	19	16-17	18
17	34-36	20-22	17-18	15	17
16	32-33	16-19	16	13-14	16
15	28-31	12-15	14-15	12	15
14	26-27	10-11	13	11	14
13	24-25	8-9	12	9-10	13
12	22-23	6-7	10-11	8	12
11	19-21	5	9	7	11
10	16-18	4	8	6	10
9	14-15	—	7	5	9
8	12-13	3	6	4	8
7	10-11	2	5	—	7
6	8-9	—	4	3	6
5	6-7	—	3	2	5
4	5	1	—	—	4
3	3-4	—	2	1	3
2	2	—	1	—	2
1	0-1	0	0	0	1

