

**MARCH 10, 2018
US**

The SAT®

Test Book

IMPORTANT REMINDERS

1

A No. 2 pencil is required for the test.
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2

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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 reading each 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 or graph).

Questions 1-10 are based on the following passage.

This passage is adapted from Dinaw Mengestu, *The Beautiful Things That Heaven Bears*. ©2007 by Dinaw Mengestu. Naomi, an eleven-year-old on a school break, is visiting the narrator, a family friend from Ethiopia, at the store he manages. They have made a plan to read the novel *The Brothers Karamazov* together.

I read forty or fifty pages that first day. Naomi read none. After I read the first page I waited for her to pick up where I had left off, but she insisted, in a voice that bordered on pleading, that I continue.

5 “One more,” she said at first. And when that page had been completed, she added another “one more” to that, until eventually there were so many “pleases” and “pretty pleases” and “come on, pleases” that I was left utterly defenseless.

10 I looked up every couple of pages to see if Naomi was still paying attention, and of course she was. Her attention, in fact, never seemed to waver. I felt her staring at me sometimes when my eyes were focused on the page, and I realized she was taking it all in, not

15 just the words, but me, and the scene that we had created together. I tried not to notice too much, to simply just live, but that was impossible. Every time I looked at her I became aware of just how seemingly perfect this time was. I thought about how years from

20 now I would remember this with a crushing, heartbreaking nostalgia, because of course I knew even then that I would eventually find myself

standing here alone. And just as that knowledge would threaten to destroy the scene, Naomi would

25 do something small, like turn the page too early or shift in her chair, and I would be happy once again.

I had more customers then, and I treated each interruption to our reading as an assault on my privacy. When someone I didn’t know entered the

30 store, Naomi would mark where I had left off so that I could keep my eyes on the person wandering around the aisles. She would take the book out of my hand, put her finger on the exact word or sentence I had just concluded, and hold it there until I returned.

35 I kept one man, who came to the counter with a single roll of toilet paper under his arm, waiting for more than a minute while I finished reading a page I had just started. At first he smiled and was charmed by what he saw. The charm wore off when I refused

40 to acknowledge him. He responded by slamming the roll on the counter, inches from my face, and storming out. Naomi and I read on.

I slipped into the characters as I read. I grumbled and bellowed, slammed my fist onto the counter, and

45 threw my arms wide open. I knew this was exactly what my father would have done had he been the one reading. He would have made the story an event, as grand and real as life. He must have told me hundreds, perhaps even thousands, of stories, not

50 just at night, but throughout the course of any given day, over breakfast, during lunch, in the middle of a conversation he might have been carrying on with my mother or friends. There was no wrong time with him, or if there was, he didn’t live long enough for

55 me to see it.

The stories he invented himself he told with particular delight. They all began the same way, with the same lighthearted tone, with a small wave of the hand, as if the world were being brushed to the side,
60 which I suppose for him it actually was.

“Ah, that reminds me. Did I tell you about—
The farmer who was too lazy to plow his fields
The hyena who laughed himself to death
The lion who tried to steal the monkey’s dinner
65 The monkey who tried to steal the lion’s dinner?”
If I had heard the story before, I let him tell it to me again. His performance was that good, his love of a story that obvious. When Fyodor Karamazov spoke, I waved my hands wildly in the air. I
70 grumbled in a deep baritone and tried as hard as I could to do my father proud.

“Ah, you fools,” I shouted out, and Naomi smiled in delight.

Naomi found each of the characters as real as
75 anyone she met in the street.

“Oooh, I hate him,” she would cry out after a particularly cruel antic on the part of the elder Karamazov. When it came to Alyosha, though, the youngest and gentlest of the Karamazov brothers, she
80 was willing to fall completely in love.

1

Over the course of the passage, the main shift in focus is from

- A) an anecdote about an amusing event to a recollection of similar events from the narrator’s childhood.
- B) an account of the early stages of a friendship to a foreshadowing of that friendship’s ultimate demise.
- C) a description of an emotionally significant activity to a reflection on the narrator’s early experiences with that activity.
- D) a character sketch of an individual to a consideration of how that individual has changed the life of the narrator.

2

Which choice best supports the conclusion that reading to Naomi interferes with some of the narrator’s responsibilities?

- A) Line 5 (“One . . . first”)
- B) Lines 23-26 (“And just . . . again”)
- C) Lines 29-32 (“When . . . aisles”)
- D) Lines 35-38 (“I kept . . . started”)

3

The narrator’s descriptions of Naomi suggest that she is notable for her

- A) empathy toward other people.
- B) ability to concentrate and observe.
- C) talent for dramatizing fiction.
- D) optimism despite many hardships.

4

Which choice best reflects the perspective of the narrator regarding his reading to Naomi?

- A) He is unequivocally delighted, because reading to Naomi has provided him with a much-needed creative outlet.
- B) He is pleasantly surprised, because he did not expect Naomi to be so enthusiastic about reading.
- C) He is occasionally regretful, because he is not as skilled a reader as his father was.
- D) He is somewhat ambivalent, because he knows that his reading time with Naomi will inevitably end.

5

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

- A) Lines 10-11 (“I looked . . . she was”)
- B) Lines 17-23 (“Every . . . alone”)
- C) Lines 38-42 (“At first . . . read on”)
- D) Lines 68-71 (“When . . . proud”)

6

As used in line 34, “concluded” most nearly means?

- A) decided.
- B) finished.
- C) inferred.
- D) dismissed.

7

It can reasonably be inferred from the passage that the narrator’s father influenced him by

- A) creating an environment that encouraged young people to express themselves.
- B) emphasizing what was most important in a life well lived.
- C) providing a model for the dramatic recounting of a story.
- D) exposing the narrator to a number of classic novels written by renowned authors.

8

The passage indicates that the narrator’s father viewed storytelling as something that

- A) continued a long-standing family tradition.
- B) provided a means of bringing historical events to life.
- C) helped children to distinguish good choices from bad ones.
- D) was part of the fabric of the family’s everyday life.

9

As used in line 53, “wrong” most nearly means

- A) inappropriate.
- B) unjust.
- C) immoral.
- D) inaccurate.

10

Which situation is most similar to the one described in lines 66-68 (“If I . . . obvious”)?

- A) A viewer eagerly anticipates the new episodes of a television series each week.
- B) An artist paints a favorite landscape at several different hours of the day.
- C) A moviegoer happily sees a particularly memorable film for a second time.
- D) An actress repeatedly recites the lines of her script to improve her performance.

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

This passage is adapted from Adam Alter, *Drunk Tank Pink: And Other Unexpected Forces That Shape How We Think, Feel, and Behave*. ©2013 by Adam Alter.

Perhaps the first experiment ever conducted in the field of social psychology suggests that humans are often faster and stronger when they test their speed and strength in the company of other people, rather than alone.

That study, conducted at Indiana University in the late 1890s, was the brainchild of Norman Triplett, a cycling enthusiast and a sports aficionado. In dozens of experiments he pushed cyclists to ride as fast as they could on stationary bikes. Across his observations, Triplett noticed that the cyclists tended to ride faster when other cyclists rode nearby. One cyclist rode a mile in 2 minutes 49 seconds when alone, but managed to ride the same mile in 2 minutes 37 seconds in the company of four pacing cyclists; similarly he rode ten miles in 33 minutes 17 seconds while riding alone, but rode the same distance two minutes faster when riding with several pacers. Triplett acknowledged that his observations were far from rigorous, so he conducted an experiment to show that the effect persisted in a tightly controlled lab study.

Triplett recruited forty children, ages eight to thirteen, to complete his study in 1897. He measured how quickly the students could wind a fishing reel so that a small flag attached to the line traveled a distance of sixteen meters. The task was simple but novel, and none of the children had played with fishing rods before the experiment. They performed the task both alone and in the presence of other children, and Triplett noticed that they wound the reels faster in the presence of others. He concluded that an audience enables people to “liberate latent energy” not normally available when they perform alone.

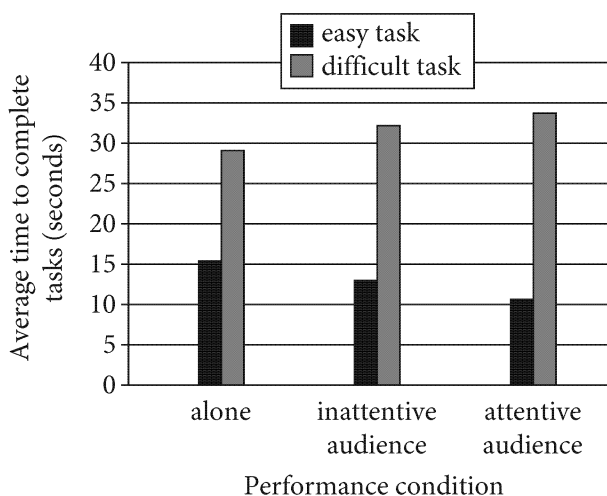
Science doesn’t always tell simple stories, and other researchers challenged Triplett’s groundbreaking results well into the twentieth century. While some researchers replicated Triplett’s effect—now known as the *social facilitation* effect—others found the opposite effect, known as *social inhibition*. Joseph Pessin and Richard Husband asked participants in their study to learn a simple maze either blindfolded alone or blindfolded in the presence of other people. The blindfolded

participants traced their forgers along the maze, and reversed each time they encountered one of ten dead ends. Instead of performing better in front of an audience, Pessin and Husband’s participants completed the maze more quickly when they were alone.

Inconsistencies like these persisted for years, until social psychologist Bob Zajonc proposed a solution: it all depends on the nature of the task. Audiences accentuate our instinctive responses and make it more difficult to override those responses in favor of more carefully considered alternatives. The children in Triplett’s experiment devoted little thought and attention to frantically winding the experimental fishing reel. In contrast, learning a maze is difficult, and it requires concentration. Pessin and Husband’s maze learners were probably distracted by the knowledge that they were being watched, and feared making a mistake in front of an audience.

Zajonc avoided experimenting with humans at first, choosing to observe the behavior of seventy-two cockroaches instead. With a small team of researchers, he devised two small athletic tasks that required the cockroaches to scuttle from a brightly lit area in a small box to a more appealing darker compartment. Some of the cockroaches completed a simpler task, in which they ran along a straight runway from the glare of the box to the darkened goal compartment. The remaining cockroaches completed a more difficult task, traversing a more complex maze before they could escape the light. Some of the cockroaches completed these tasks alone, but the researchers also built a small audience box to force some of the athletic cockroaches to compete in front of an audience of roach spectators. Just as the researchers predicted, the cockroaches were much quicker to cover the straight runway when watched by an audience, reaching the darkened goal compartment an average of twenty-three seconds more quickly when they were performing before a crowd. But the cockroach athletes responded very differently to an audience when they were faced with the complex maze, reaching the goal seventy-six seconds more quickly when they were alone. The same audience that pushed the cockroaches to perform the simpler task more quickly also delayed them when the task was more complex.

Human Performance of Easy and Difficult Tasks in Different Audience Scenarios



Adapted from Hazel Markus, "The Effect of Mere Presence on Social Facilitation: An Unobtrusive Test." ©1978 by Academic Press, Inc.

Participants were observed performing an easy task (such as putting on their shoes) and a difficult task (such as putting on a back-tying lab coat).

11

The main purpose of the passage is to

- A) assert that the majority of people learn more effectively in a group than they do alone.
- B) present the contradictory results of two studies about learning that have each been considered groundbreaking.
- C) show how various experiments helped establish and refine the understanding of an audience's effect on performance.
- D) chronicle the historical development of competing theories of social interaction.

12

Which choice best represents the different meanings of "simple" as used in line 27 and line 36?

- A) Easy; straightforward
- B) Mindless; sincere
- C) Effortless; humble
- D) Innocent; uncomplicated

13

Based on the passage, the design of Triplett's fishing-reel experiment most likely ruled out which potential objection to his findings?

- A) Improvements in the subjects' performance after being asked to perform the task in front of an audience may reflect the subjects' increasing competence at the task.
- B) Differences between the subjects' performance with an audience and their performance without an audience may be influenced by the subjects' prior experience with the task.
- C) Variations in performance among the subjects under either audience condition may be attributed to variations in the subjects' ages and physical development.
- D) Changes in the subjects' performance after being put in front of an audience may result from some subjects observing and imitating the performance of more highly skilled subjects.

14

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

- A) Lines 19-22 ("Triplett . . . study")
- B) Lines 23-24 ("Triplett . . . 1897")
- C) Lines 27-29 ("The task . . . experiment")
- D) Lines 29-32 ("They . . . others")

15

As presented in the passage, Triplett would most likely agree that human beings

- A) are capable of ultimately mastering almost any task with which they are presented.
- B) exhibit a general tendency to avoid attempting difficult tasks when they are alone.
- C) have a strong desire to cooperate with other members of a group.
- D) possess abilities that they are not always able to exploit.

16

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

- A) Lines 9-10 (“In dozens . . . bikes”)
- B) Lines 32-35 (“He concluded . . . alone”)
- C) Lines 36-39 (“Science . . . century”)
- D) Lines 39-42 (“While . . . *inhibition*”)

17

Based on the passage, which choice best describes what happened when the cockroaches in Zajonc’s experiment attempted to complete the complex maze in front of a cockroach audience?

- A) The cockroaches became less hesitant in making choices than they had been without an audience.
- B) The cockroaches completed the maze more slowly than they had without an audience.
- C) The cockroaches in the maze appeared to communicate directly with the audience.
- D) The cockroaches sought out the simpler task instead of the complex maze.

18

The author uses the terms “athletic cockroaches,” “roach spectators,” and “cockroach athletes” in the last paragraph of the passage most likely to

- A) call attention to the similarity of the two experiments described.
- B) stress the skepticism with which the author views the design of the experiment.
- C) create a casual tone that offsets the seriousness of the work being done.
- D) reinforce the idea that the observed cockroach behavior is comparable to that of humans.

19

According to the graph, how long did it take participants, on average, to perform an easy task when they were alone?

- A) More than 10 seconds but less than 15 seconds
- B) More than 15 seconds but less than 20 seconds
- C) More than 20 seconds but less than 25 seconds
- D) More than 25 seconds but less than 30 seconds

20

Information about which of the following is presented in the graph but NOT discussed in the passage?

- A) The time needed to complete tasks
- B) Difficult tasks
- C) Tasks performed alone
- D) An inattentive audience

Questions 21-31 are based on the following passages.

Passage 1 is adapted from Christine Dell'Amore, "Why Do Zebras Have Stripes? New Study Offers Strong Evidence." ©2014 by National Geographic Society. Passage 2 is adapted from Laura Poppick, "Why Do Zebras Have Stripes? It's Not for Camouflage." ©2015 by Purch.

Passage 1

The question of why zebras have stripes has puzzled scientists—including Darwin—for over a century, leading to five main hypotheses: that the stripes repel insects, provide camouflage, confuse predators, reduce body temperature, or help the animals interact socially.

For the first time, scientists played all of these theories against each other in a statistical model—and the result was pretty much, well, black and white.

"We found again and again and again [that] the only factor which is highly associated with striping is to ban biting flies," said study leader Tim Caro, a biologist at the University of California, Davis.

For the study, Caro and colleagues collected data from a vast range of sources, including museum collections and historical maps.

First, the team looked at variations in striping patterns across the seven living species of the equid group—which includes horses, asses, and zebras—and their 20 subspecies. Most have some sort of striping somewhere on their bodies.

They also noted where the stripes occurred on the body—for instance, the face, belly, or rump.

The team then mapped where current and extinct equid species live, where biting flies are found, the ranges of predators like lions and hyenas, distribution of forests, and other environmental factors that could influence the evolution of stripes. The data was then entered into a statistical model to find out which variable best explains striping.

The results showed that the range of striped species overlaps with where biting flies are most active—regardless of species and where the stripes occur on the body, according to the study.

Brenda Larison, a biologist at the University of California, Los Angeles, who studies stripes in plains zebras, said the new study's approach is "broad brush," and that more specific research may be needed.

That's why "the story is likely to be much more complex, and this is unlikely to be the last word on the subject," said Larison.

Passage 2

Researchers based at the University of California, Los Angeles (UCLA) have produced one of the most comprehensive zebra stripe studies yet by examining how 29 different environmental variables influence the stripe styles of plains zebras at 16 different sites from south to central Africa.

The scientists found that the definition of stripes along a zebra's back most closely correlated with temperature and precipitation in a zebra's environment, and did not correlate with the prevalence of lions or tsetse flies in the region. These findings suggest that torso stripes may do more to help zebras regulate their body temperature than to avoid predators and tsetse flies.

"This wall we kept hitting up against was, 'Well, why do zebras have to have stripes for predation? Other animals have predators, and they don't have stripes,'" said study co-author Brenda Larison. "And other animals get bitten by flies, and they don't have stripes, either."

Other animals also need to regulate body temperature, or thermoregulate, Larison pointed out, but zebras may especially benefit from an extra cooling system because they digest food much less efficiently than other grazers in Africa. As such, zebras need to spend longer periods of time out in the heat of the midday sun, eating more food.

The team found that the plains zebras with the most-defined torso stripes generally lived in the Northern, equatorial region of their range, whereas those with less-defined torso stripes were more common in the Southern, cooler regions of the range—a finding that supports the thermoregulation explanation.

Still, the researchers have not experimentally tested the theory that black and white stripes may generate small-scale breezes over a zebra's body, and some researchers don't think stripes can actually create this effect.

"I don't think that you would want to have a lot of black hairs along the top of your back if you wanted to try to keep cool," said Tim Caro, a professor of wildlife biology at the University of California, Davis, who studies zebra stripes but was not involved in the new study. "It's kind of the last color that you would want."

Caro said regions with warmer, wetter climates
90 are particularly susceptible to several species of
disease-carrying flies other than the tsetse flies that
the team considered in their study, and that the
relationship the researchers found may actually be a
function of fly avoidance, not thermoregulation.

21

Which choice best supports the idea that Caro's
team's study may be relevant to animals other than
zebras?

- A) Lines 1-6 ("The question . . . socially")
- B) Lines 10-13 ("We found . . . Davis")
- C) Lines 14-16 ("For . . . maps")
- D) Lines 31-34 ("The results . . . study")

22

In describing the new study's approach as "broad
brush" (line 38), Larison suggests that the study

- A) produced results that are relevant to an array of
scientific disciplines.
- B) revealed that further research will require a
specialized focus.
- C) raised theoretical questions that proved
unanswerable.
- D) collected far more data than could be analyzed
properly.

23

According to Larison in Passage 2, the reason stripes
are particularly beneficial to zebras is probably
because zebras

- A) endure greater exposure to the midday sun than
other grazers do.
- B) cannot escape predators as easily as other grazers
in hot regions can.
- C) live in hot, dry climates that lack an adequate
food supply for most grazers.
- D) defend themselves more poorly against predator
attacks than other grazers do.

24

In Passage 2, the fourth paragraph (lines 63-69)
mainly serves to

- A) note a distinction between zebras and other
animals with stripes.
- B) suggest that a weakness in zebra physiology
might be mitigated by stripes.
- C) imply that Caro's research is based on a false
premise about zebras' grazing behavior.
- D) describe differences between zebras in warm
climates and those in cool climates.

25

Passage 2 implies that Larison's team's study falls
short of being definitive because Larison

- A) disregarded facts that did not support her
conclusions.
- B) used research methods that have not proved
effective.
- C) did not build on the achievements of prior
research on the subject.
- D) has yet to confirm a key assumption made in
the study.

26

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

- A) Lines 49-53 ("The scientists . . . region")
- B) Lines 54-56 ("These . . . flies")
- C) Lines 70-76 ("The team . . . explanation")
- D) Lines 77-81 ("Still . . . effect")

27

Based on Passage 2, Caro would most likely agree with which of the following statements about coloration patterns containing black stripes?

- A) They have an unknown genetic basis.
- B) They might hinder thermoregulation in animals.
- C) They occur in nature very rarely.
- D) They are aesthetically unappealing.

28

In Passage 2, the phrase “particularly susceptible” (line 90) mainly serves to

- A) point out a flaw in Larison’s conception of zebras’ geographic range.
- B) emphasize the abundance of pests where some zebras live.
- C) highlight the challenges the terrain presents to zebras in avoiding predators.
- D) imply that the heat of their environment affects zebras more negatively than it does other grazers.

29

The primary purpose of both passages is to consider studies that

- A) describe the process by which stripes became widespread among zebra species.
- B) dispute a common misconception regarding zebras’ stripes.
- C) explore the likely benefit that zebras derive from their stripes.
- D) compare zebras’ stripes to coloration in other animal species.

30

Based on the description of Caro’s study in Passage 1 and that of Larison’s study in Passage 2, with which claim regarding zebras would both researchers most likely agree?

- A) Stripes in zebras are used primarily for a different purpose than to provide camouflage.
- B) The role of stripes in zebras remains as elusive today as in the past.
- C) The evolution of stripes in zebras is in direct response to predation.
- D) The geographic locations in which zebras live do not influence stripe patterns.

31

In the passages, Caro and Larison defend their conclusions by relying on

- A) several experiments that simulate conditions in nature.
- B) field observations over the course of several months.
- C) data collected from various museums and maps.
- D) observed correlations among multiple variables.

Questions 32-42 are based on the following passage.

This passage is from Charles Dickens, *American Notes for General Circulation*. Originally published in 1842. After spending six months traveling in North America, British novelist Charles Dickens wrote an account of his travels and of the people he encountered.

Line But I may be pardoned, if on such a theme as the
general character of the American people, and the
general character of their social system, as presented
to a stranger's eyes, I desire to express my own
5 opinions in a few words, before I bring these volumes
to a close.

They are, by nature, frank, brave, cordial,
hospitable, and affectionate. Cultivation and
refinement seem but to enhance their warmth of
10 heart and ardent enthusiasm; and it is the possession
of these latter qualities in a most remarkable degree,
which renders an educated American one of the most
endearing and most generous of friends. I never was
so won upon, as by this class; never yielded up my
15 full confidence and esteem so readily and pleasurably, as
to them; never can make again, in half a year, so
many friends for whom I seem to entertain the
regard of half a life.

These qualities are natural, I implicitly believe, to
20 the whole people. That they are, however, sadly
sapped and blighted in their growth among the mass;
and that there are influences at work which endanger
them still more, and give but little present promise of
their healthy restoration; is a truth that ought to
25 be told.

It is an essential part of every national character to
pique¹ itself mightily upon its faults, and to deduce
tokens of its virtue or its wisdom from their very
exaggeration. One great blemish in the popular mind
30 of America, and the prolific parent of an
innumerable brood of evils, is Universal Distrust.
Yet the American citizen plumes² himself upon this
spirit, even when he is sufficiently dispassionate to
perceive the ruin it works; and will often adduce it, in
35 spite of his own reason, as an instance of the great
sagacity and acuteness of the people, and their
superior shrewdness and independence.

'You carry,' says the stranger, 'this jealousy and
distrust into every transaction of public life. By repelling
40 worthy men from your legislative assemblies, it has
bred up a class of candidates for the suffrage, who, in
their very act, disgrace your Institutions and your
people's choice. It has rendered you so fickle, and so

given to change, that your inconstancy has passed
45 into a proverb; for you no sooner set up an idol
firmly, than you are sure to pull it down and dash it
into fragments: and this, because directly you reward
a benefactor, or a public servant, you distrust him,
merely because he is rewarded; and immediately
50 apply yourselves to find out, either that you have
been too bountiful in your acknowledgments, or he
remiss in his deserts. Any man who attains a high
place among you, from the President downwards,
may date his downfall from that moment; for any
55 printed lie that any notorious villain pens, although it
militate directly against the character and conduct of
a life, appeals at once to your distrust, and is believed.
You will strain at a gnat in the way of trustfulness
and confidence, however fairly won and well
60 deserved; but you will swallow a whole caravan of
camels, if they be laden with unworthy doubts and
mean suspicions. Is this well, think you, or likely to
elevate the character of the governors or the
governed, among you?

65 The answer is invariably the same: 'There's
freedom of opinion here, you know. Every man
thinks for himself, and we are not to be easily
overreached. That's how our people come to be
suspicious.'

¹ Take pride in

² Indulges with self-satisfaction

32

One central idea of the passage is that Americans'

- A) wariness of their elected representatives has led to poor judgment on the part of citizens and to inferior candidates for public office.
- B) distrust of both their fellow citizens and foreigners means that Americans will remain insular and unrefined.
- C) perceptiveness and independence have enabled Americans to be astute judges of their elected officials.
- D) suspiciousness of their politicians has undermined the government and contributed to widespread instability.

33

Over the course of the passage, Dickens's main focus shifts from

- A) defending Americans against the charge of being uncultivated to conceding that Americans would benefit from being more refined.
- B) describing particular kindnesses shown to him by Americans to questioning why Americans are so suspicious of their own countrymen.
- C) discussing the tendency of nations to take pride in their flaws to recommending that Americans view themselves more critically.
- D) praising admirable qualities identified with Americans to expressing concern about certain objectionable American traits.

34

As used in lines 2 and 3, "character" most nearly means

- A) symbol.
- B) rank.
- C) nature.
- D) portrayal.

35

Which choice provides the best evidence for the idea that Americans too readily accept unfounded criticism of their elected leaders?

- A) Lines 7-13 ("They . . . friends")
- B) Lines 13-18 ("I never . . . life")
- C) Lines 52-57 ("Any . . . believed")
- D) Lines 62-64 ("Is this . . . you")

36

As used in line 18, "regard" most nearly means

- A) care.
- B) motive.
- C) appreciation.
- D) aspect.

37

Dickens suggests that the tendency toward suspicion exhibited by many Americans is especially problematic because it

- A) causes people to be distrustful of their neighbors and acquaintances.
- B) emboldens people to challenge each other's judgments.
- C) invites people to act with too great a degree of independence.
- D) encourages people to act against their best interests.

38

As used in line 35, "reason" most nearly means

- A) judgment.
- B) explanation.
- C) cause.
- D) defense.

39

Dickens most likely adopts the point of view of “the stranger” (line 38) in order to

- A) expose harsh criticisms of Americans that he believes to be unfounded.
- B) dramatize a strong view of a certain American intellectual tendency in an imaginary conversation.
- C) articulate a view of Americans that he previously held and has since abandoned.
- D) report on a conversation that he had with a particular American citizen.

40

In the passage, Dickens implies that American political leaders are often

- A) unresponsive to their constituents.
- B) undeserving of the positions they hold.
- C) too changeable in their judgments.
- D) well positioned to wield their authority.

41

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

- A) Lines 39-43 (“By repelling . . . choice”)
- B) Lines 43-45 (“It has . . . proverb”)
- C) Lines 47-49 (“directly . . . rewarded”)
- D) Lines 58-62 (“You will . . . suspicions”)

42

According to the passage, Americans quickly turn against the elected leaders they had recently idolized because Americans

- A) are suspicious that anyone who is elected might not be worthy of the honor.
- B) have learned from experience that elected representatives are likely to be corrupt.
- C) know that elected officials abandon their political platforms soon after being elected.
- D) distrust the political institutions that are the foundation of the American government.

Questions 43-52 are based on the following passage and supplementary material.

This passage is adapted from Kelly Servick, "Gut Bugs May Boost Flu Shot's Effects." ©2014 by American Association for the Advancement of Science.

Every year, some unlucky people get the flu even though they've had their seasonal shot. One reason, according to a new study, might be their gut bacteria.

Line Researchers have shown that, at least in mice, a
5 strong immune response to the flu vaccine relies in part on signals from intestinal microbes. The findings could help explain variation in the response to the vaccine and suggest ways to maximize its effectiveness.

10 The new evidence came out of a curious observation that researchers revealed in a 2011 paper. Bali Pulendran, an immunologist at Emory University in Atlanta, and colleagues were looking for genetic signatures in the blood of people injected
15 with the trivalent inactivated influenza vaccine—a mixture of three flu strains. They wanted to know whether the expression of specific genes in the immune system's white blood cells correlated with the amount of vaccine-specific antibodies in the
20 blood—which indicates how strongly a person's immune system responds to the shot, and how much protection that person will gain against future infections. In a long list of genes associated with strong vaccine response, the researchers found an
25 unexpected one: the gene that codes for a protein called toll-like receptor 5 (TLR5).

"We thought this must just be a coincidence," Pulendran says. TLR5 is a sensor of flagellin, a protein that makes up the appendages of bacteria.
30 Why would a receptor that interacts with bacteria in the gut have anything to do with the body's response to a virus injected into muscle? Maybe, the group thought, B cells—the white blood cells that produce antibodies—receive a signal from bacteria that boosts
35 their activity.

To explore that possibility, the researchers designed a new study using mice. They gave the flu vaccine to three different groups: mice genetically engineered to lack the gene for TLR5, germ-free mice
40 with no microorganisms in their bodies, and mice that had spent 4 weeks drinking water laced with antibiotics to obliterate most of their microbiome.

Seven days after vaccination, all three groups showed significantly reduced concentrations of
45 vaccine-specific antibodies in their blood compared

with vaccinated control mice. The reduction was less marked by day 28, as blood antibody levels appeared to rebound. But when the researchers observed the mice lacking *Tlr5* on the 85th day after vaccination,
50 their antibodies seemed to have dipped again, suggesting that without this bacterial signaling, the effects of the flu vaccine wane more quickly.

The researchers saw similar results when they gave mice a polio vaccine, which, like the flu shot,
55 uses an inactivated virus and doesn't contain so-called adjuvants—additives that boost the body's immune response. Pulendran and colleagues suggest that these weaker, adjuvant-lacking vaccines rely more heavily on bacterial signaling. (They didn't see
60 the same results with the live virus in the yellow fever vaccine, for example.)

No specific type of bacteria seemed more important than another in prompting the vaccine response. But further experiments showed a major
65 role for macrophages—immune cells that display pieces of the virus to activate B cells and that can also recognize flagellin. Pulendran's favored explanation is that flagellin manages to break through the lining of the intestines to circulate in the body and activate
70 B cells and macrophages, amping up antibody production. But where and how the interaction happens "is a huge mystery," he says. "We don't have the full answer."

Figure 1

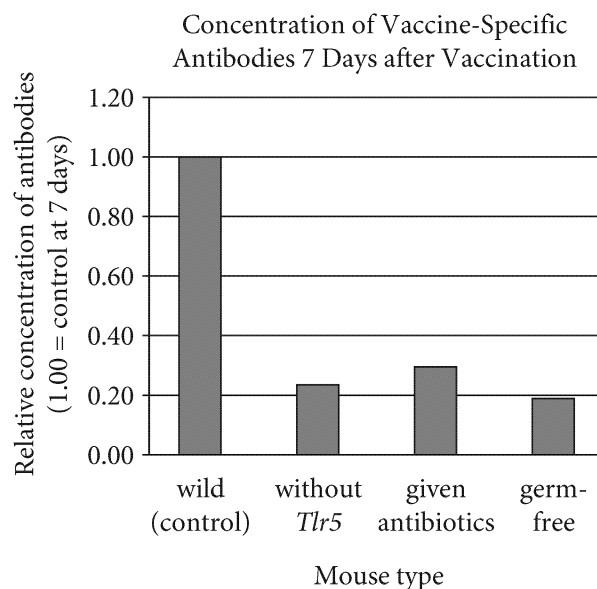
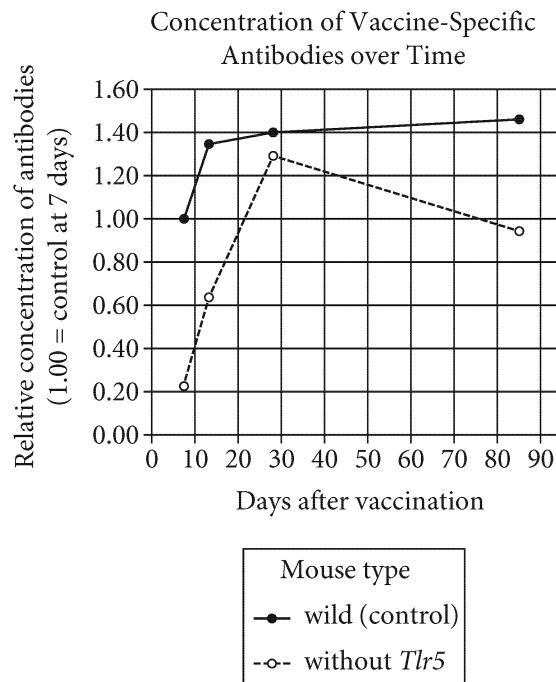


Figure 2

Figures adapted from Jason Z. Oh et al., "TLR5-Mediated Sensing of Gut Microbiota Is Necessary for Antibody Responses to Seasonal Influenza Vaccination." ©2014 by Elsevier Inc.

43

The primary purpose of the passage is to

- A) discuss research on a factor that influences vaccine effectiveness.
- B) describe how vaccines are tested for safety and efficacy.
- C) present a study of the role of bacteria in causing illness.
- D) analyze the genetic components of the flu virus.

44

In the second paragraph (lines 10-26), the author uses the words "curious" and "unexpected" primarily to suggest that Pulendran and his colleagues

- A) did not anticipate that the gene coding for TLR5 would be so widespread in the people who received the trivalent vaccine.
- B) assumed that the gene coding for TLR5 would not be found in any of the people with weak immune responses to the trivalent vaccine.
- C) were surprised to find a link between the expression of the gene coding for TLR5 and relatively high counts of trivalent vaccine-specific antibodies.
- D) had previously overlooked the connection between the gene coding for TLR5 and changes in white blood cells in response to the trivalent vaccine.

45

Which statement regarding subjects who had strong immune responses to the trivalent vaccine can be most reasonably inferred from the passage?

- A) They demonstrated higher white blood cell counts in response to the trivalent vaccine than in response to other vaccines.
- B) They had a similar pattern of gene expression that was not found in subjects with weak responses to the vaccine.
- C) They showed immunity to flu strains other than those for which the trivalent vaccine was intended.
- D) They possessed some types of intestinal bacteria that previously had been observed only in mice.

46

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

- A) Lines 4-6 (“Researchers . . . microbes”)
- B) Lines 12-16 (“Bali . . . strains”)
- C) Lines 23-26 (“In a . . . TLR5”)
- D) Lines 28-29 (“TLR5 . . . bacteria”)

47

According to the passage, which statement best explains the hypothesis that Pulendran’s group tested in their experiment with mice?

- A) B cells must receive signals from intestinal bacteria to begin producing vaccine-specific antibodies.
- B) Vaccines containing active viruses must be accompanied by adjuvants to generate a strong immune response.
- C) The effectiveness of vaccines at stimulating flagellin activity depends on the presence of the gene that codes for TLR5.
- D) The strength of the immune response following vaccination is related to the white blood cells’ detection of signals from intestinal bacteria.

48

The main purpose of the last paragraph is to

- A) question the overall importance of the vaccine response in light of new discoveries.
- B) suggest that the researchers who studied the vaccine response were uncertain about their data.
- C) emphasize the fact that further research into the nature of the vaccine response is necessary.
- D) urge other scientists to consider furthering the existing work regarding the vaccine response.

49

As used in line 63, “prompting” most nearly means

- A) inciting.
- B) suggesting.
- C) shortening.
- D) refreshing.

50

According to figure 1, the relative concentration of vaccine-specific antibodies in the germ-free mice 7 days after vaccination was closest to which value?

- A) 0.20
- B) 0.80
- C) 1.00
- D) 1.20

51

Figure 2 supports which statement about the relative concentrations of vaccine-specific antibodies in control mice and in mice without *Tlr5*?

- A) They increased between 7 and 28 days after vaccination.
- B) They reached their highest points 85 days after vaccination.
- C) They began to decrease 28 days after vaccination.
- D) They returned to their lowest levels 85 days after vaccination.

52

Based on the passage and figures 1 and 2, how would the bars in figure 1 most likely change if they focused on the concentration of vaccine-specific antibodies 14 days after vaccination?

- A) The bar for the mice without *Tlr5* would be lower.
- B) The bar for the mice given antibiotics would be higher than the bar for the control mice.
- C) The bar for the control mice only would be higher.
- D) The bars for all four groups of mice would be higher.

STOP

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

