

Reading Test

60 MINUTES, 47 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 1-9 are based on the following passage.

This passage is adapted from Edwin O'Connor, *The Last Hurrah*. ©1956 by Edwin O'Connor.

City Hall was a lunatic pile of a building: a great, grim, resolutely ugly dust-catcher which had been designed eighty years before by the then mayor, one
 Line Clement "Nutsy" McGrath. An ebullient man of
 5 antic behavior, he was the only mayor of the city ever to be kicked to death by a camel. This had happened in Egypt; he had paused there while on an ill-advised world tour. Wandering about Cairo, he had encountered his first camel—hitherto like the roc,
 10 a creature of fable to him. This high-spirited and slightly demented man could hardly resist teasing such an odd beast; the response of the camel had been savagely disproportionate, and that had been the end of Nutsy.

15 It was from this man's unskilled and laboriously drawn plans that the present City Hall had arisen, and for generations it had been decried as the prime eyesore of the community. Despite this, the building had its defenders, and intermittent suggestions that it
 20 be razed had met with howls of protest from those who had worked long within it and who, with a certain rude poetic vision, saw in this inefficient, tangled warren the perfect symbol for municipal administration.

25 It was a noisy and an active place. In its old, high-ceilinged chambers the elected and appointed officials of government slumbered, mused, or conducted the affairs of the city; in this they were guided by the opportunities afforded them and, to a

30 somewhat lesser degree, by the strictures of conscience. Along the endless, outmoded corridors, hard by elevator shafts and water coolers, ranged little bands of political guerillas; having no perceptible tie with the management of the city, they
 35 were nevertheless perpetually busy with concerns of their own. Red of face, shrewd of eye, agile of tongue, they continually nodded, winked, and flashed the cabalistic signs of confederacy, all the while regarding one another with a surreptitious if
 40 unremitting attention.

Mayor Frank Skeffington's offices were on the third floor. Normally well-filled, this morning they were jammed to the doors, for with the announcement of last night the re-election band
 45 wagon officially had begun to roll, and the crowd was rushing to get on board. It was a familiar sight to Skeffington; he had seen it often before, this quick parade of the professionals to the post; and as often
 50 as he had seen it, he had felt the same undimmed flush of joyous anticipation. Much as he loved to win, he loved the fight to win even more, and in his appraisal of his own strengths he put in first place that of the born campaigner.

This morning, once within the Hall, progress had
 55 been slow: there were more well-wishers lining his path from the outer door. He had greeted them all, addressing the majority by name. At length he reached his reception room, where the process was repeated; in addition to the individual greetings, he

60 made a short speech, thanking all those assembled for their anticipated support in the campaign to come. Under cover of the cheers that followed this, he bowed, waved, and disappeared into his office.

Here three men waited for him: his chief secretary, Tom Lacy, and his two principal advisers, Sam Weinberg and old John Gorman.

"Gentlemen," Skeffington said. "A grand day to start the ball rolling. As well as heads. What's on the schedule, Tom?"

70 "Everything's fairly routine this morning," Lacy said, planting a small pile of papers upon the great mahogany desk. "These are all for your signature: the notices to all heads of departments about the collection for Tom McCabe's widow, the Easter proclamation, thank-you letters to the K. of C. and the Polish-American War Veterans. Then there's the press conference, after which you're giving the keys to the city to Fats Citronella. Then lunch with the members of the Highway Safety Committee."

80 Skeffington held up a hand. "One moment," he said. "A little amplification is required: who is Fats Citronella? And why am I giving him the keys to the city?"

"He's a piano player. He's coming here this week for an engagement at the Poli, and the theater people were anxious to have him officially welcomed.

Cuke Gillen set it up."

"And I agreed?"

90 "Yes, one day last week; Cuke caught you on the run. Actually," Lacy said, "it may not be bad from the standpoint of publicity. Citronella's apparently quite well known."

1

In the first paragraph, the anecdote about Nutsy and the camel serves primarily to

- A) reveal Nutsy's adventurous spirit and open-mindedness.
- B) show the inspiration for Nutsy's design of City Hall.
- C) illustrate Nutsy's eccentricity and bad judgment.
- D) depict a humorous incident from Nutsy's youth.

2

Which conclusion about how city officials regard their jobs can most reasonably be drawn from the passage?

- A) They tend to treat their jobs as means to self-advancement.
- B) They believe that their jobs are essential for the civic good.
- C) They think their jobs are more difficult than the public believes.
- D) They view their jobs as frustrating and thankless.

3

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

- A) Lines 18-24 ("Despite . . . administration")
- B) Lines 25-31 ("In its . . . conscience")
- C) Lines 31-36 ("Along . . . own")
- D) Lines 36-40 ("Red . . . attention")

4

Why were Skeffington's offices especially crowded on the morning described in the passage?

- A) Music fans had heard that Skeffington was meeting with Fats Citronella.
- B) People were eager to show their support for Skeffington's campaign.
- C) Well-wishers wanted to see Skeffington on his final day as mayor.
- D) Reporters had gathered for the press conference at which Skeffington planned to announce his reelection bid.

5

In lines 49-50, the narrator uses the phrase “the same undimmed flush of joyous anticipation” to emphasize that

- A) despite having been a fixture on the local political scene for a very long time, Skeffington continues to inspire passion in voters.
- B) Skeffington’s extensive experience with elections has not diminished his idealism about politics in general.
- C) the intensity of Skeffington’s enthusiasm is greater than that of any of his supporters or fellow candidates.
- D) having been through numerous elections before has not made Skeffington any less excited to be beginning a new campaign.

6

The narrator most clearly characterizes Skeffington as

- A) ethical and conscientious.
- B) curious and reflective.
- C) generous and amiable.
- D) competitive and confident.

7

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

- A) Lines 42-46 (“Normally . . . board”)
- B) Lines 50-53 (“Much . . . campaigner”)
- C) Lines 57-62 (“At length . . . come”)
- D) Lines 68-69 (“What’s . . . Tom”)

8

The discussion about Fats Citronella in lines 76-92 serves primarily to

- A) mock Skeffington’s lack of familiarity with popular culture.
- B) demonstrate that Skeffington is distracted by the demands of the campaign.
- C) suggest the superficial and pragmatic nature of some of Skeffington’s public activities.
- D) reveal the difficult decisions that are often made during the frenzy of a campaign.

9

When Skeffington asks Lacy for “amplification” (line 81), he means that he wants Lacy to

- A) add clarifying information.
- B) speak at a higher volume.
- C) work harder at his job.
- D) offer more examples.

Questions 10-18 are based on the following passages.

Passage 1 is adapted from Booker T. Washington, "The Atlanta Exposition Address," delivered in 1895. Passage 2 is from W. E. B. Du Bois, *The Souls of Black Folk*. Originally published in 1903. Washington and Du Bois were influential African American intellectuals at a time when African Americans were denied basic freedoms in many parts of the United States, particularly the South.

Passage 1

Our greatest danger is that in the great leap from slavery to freedom we may overlook the fact that the masses of us are to live by the productions of our hands. . . . No race can prosper till it learns that there
5 is as much dignity in tilling a field as in writing a poem. It is at the bottom of life we must begin, and not at the top. Nor should we permit our grievances to overshadow our opportunities.

To those of the white race . . . as we have
10 proved our loyalty to you in the past, in nursing your children, watching by the sick-bed of your mothers and fathers, and often following them with tear-dimmed eyes to their graves, so in the future, in our humble way, we shall stand by you with a
15 devotion that no foreigner can approach, ready to lay down our lives, if need be, in defence of yours, interlacing our industrial, commercial, civil, and religious life with yours in a way that shall make the interests of both races one. In all things that are
20 purely social we can be as separate as the fingers, yet one as the hand in all things essential to mutual progress. . . .

The wisest among my race understand that the agitation of questions of social equality is the
25 extremest folly, and that progress in the enjoyment of all the privileges that will come to us must be the result of severe and constant struggle rather than of artificial forcing. No race that has anything to contribute to the markets of the world is long in any
30 degree ostracized. It is important and right that all privileges of the law be ours, but it is vastly more important that we be prepared for the exercises of these privileges. The opportunity to earn a dollar in a factory just now is worth infinitely more than the
35 opportunity to spend a dollar in an opera-house.

Passage 2

Mr. Washington represents in Negro thought the old attitude of adjustment and submission; but adjustment at such a peculiar time as to make his programme unique. This is an age of unusual

40 economic development, and Mr. Washington's programme naturally takes an economic cast, becoming a gospel of Work and Money to such an extent as apparently almost completely to overshadow the higher aims of life. Moreover, this is
45 an age when the more advanced races are coming in closer contact with the less developed races, and the race-feeling is therefore intensified; and Mr. Washington's programme practically accepts the alleged inferiority of the Negro races. Again, in our
50 own land, the reaction from the sentiment of war time has given impetus to race-prejudice against Negroes, and Mr. Washington withdraws many of the high demands of Negroes as men and American citizens. In other periods of intensified prejudice all
55 the Negro's tendency to self-assertion has been called forth; at this period a policy of submission is advocated. In the history of nearly all other races and peoples the doctrine preached at such crises has been that manly self-respect is worth more than lands and
60 houses, and that a people who voluntarily surrender such respect, or cease striving for it, are not worth civilizing.

In answer to this, it has been claimed that the Negro can survive only through submission.
65 Mr. Washington distinctly asks that black people give up, at least for the present, three things,—

First, political power,

Second, insistence on civil rights,

Third, higher education of Negro youth,—
70 and concentrate all their energies on industrial education, the accumulation of wealth, and the conciliation of the South. This policy has been courageously and insistently advocated for over fifteen years, and has been triumphant for perhaps
75 ten years. As a result of this tender of the palm-branch, what has been the return? In these years there have occurred:

1. The disfranchisement of the Negro.
2. The legal creation of a distinct status of civil
80 inferiority for the Negro.
3. The steady withdrawal of aid from institutions for the higher training of the Negro.

These movements are not, to be sure, direct results of Mr. Washington's teachings; but his
85 propaganda has, without a shadow of a doubt, helped their speedier accomplishment. The question then comes: Is it possible, and probable, that nine millions of men can make effective progress in economic lines

1

if they are deprived of political rights, made a servile
90 caste, and allowed only the most meagre chance for
developing their exceptional men? If history and
reason give any distinct answer to these questions, it
is an emphatic *No*.

10 In context, the reference to the fingers and the hand
in lines 19-22 serves mainly to

- A) relate an anecdote that illustrates Washington's point.
- B) make a concession that qualifies Washington's point.
- C) allude to contemporary events that validate Washington's point.
- D) provide an analogy that clarifies Washington's point.

11 Which choice best supports the idea that Du Bois
feels Washington is partially responsible for the
worsening conditions facing African Americans?

- A) Lines 39-40 ("This . . . development")
- B) Lines 49-52 ("Again . . . Negroes")
- C) Lines 75-76 ("As a . . . return")
- D) Lines 83-86 ("These . . . accomplishment")

12 In lines 57-62, Du Bois most likely refers to other
races and peoples in previous historical periods in
order to

- A) criticize the ideas prevalent in previous eras.
- B) locate a contentious issue within a larger context.
- C) concede a particular point to Washington.
- D) provide a cautionary example to his supporters.

13 In Passage 2, Du Bois states that Washington
encouraged African Americans to postpone the
achievement of

- A) political power, civil rights, and higher education.
- B) economic, artistic, and spiritual development.
- C) industrial training, wealth, and reconciliation with white southerners.
- D) self-confidence, self-expression, and self-sufficiency.

14 As used in line 76, "return" most nearly means

- A) outcome.
- B) replacement.
- C) report.
- D) recurrence.

15

As used in line 81, “steady” most nearly means

- A) trustworthy.
- B) continual.
- C) calm.
- D) secure.

16

Both passages most directly address the issue of

- A) why African Americans should agitate for civil rights.
- B) how African Americans can best achieve equality in American society.
- C) whether African Americans will one day live free from discrimination.
- D) when African Americans will achieve political power in the United States.

17

In response to Du Bois’s claim that Washington’s program would overshadow higher aims in life, Washington would most likely argue that African Americans must first

- A) reclaim their lost agricultural heritage.
- B) focus on achieving economic well-being.
- C) establish an independent civil society.
- D) campaign to secure the social privileges possessed by white citizens.

18

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

- A) Lines 1-4 (“Our . . . hands”)
- B) Lines 7-8 (“Nor . . . opportunities”)
- C) Lines 23-25 (“The wisest . . . folly”)
- D) Lines 33-35 (“The opportunity . . . opera-house”)

Questions 19-27 are based on the following passage and supplementary material.

This passage is adapted from Alok Jha, "Brain's Music Pleasure Zone Identified." ©2013 by Guardian News and Media Limited.

Line Scientists know that music can give intense
pleasure by delivering chemical rewards in the brain
that are equal to the joy of good food, but now they
think they may have identified the part of the brain
5 where this pleasure starts.

Researchers scanned the brains of subjects while
they listened to new songs and asked how much they
would spend on buying the tracks. They found that
the most popular songs—those which people were
10 prepared to pay more for—were also the ones that
elicited the strongest response in the nucleus
accumbens, a structure in the centre of the brain that
is involved in reward processing.

"This area is important because it's involved in
15 forming expectations and these are expectations that
could be rewarding," said Valorie Salimpoor of
McGill University in Montreal, Canada. "What
makes music so emotionally powerful is the creation
of expectation. Activity in the nucleus accumbens
20 normally would indicate that expectations are being
met or surpassed."

In the experiment, which is published in *Science*,
she and her colleagues scanned the brains of
20 people who used an interface to listen to
25 30-second clips of songs they had never heard before
but were in a genre they generally liked. "Instead of
just asking them if they liked the music or not, we
gave them a chance to buy the music because that
gives us a real understanding of what they really like
30 and want," she said. "Immediately after they hear
each clip, they make a decision. They could spend
zero dollars, 99¢, \$1.29 or \$2."

The brain scans showed a direct relationship
between how strong a response someone had in their
35 nucleus accumbens to a song and how much they
were willing to pay for it. This part of the brain was
not acting alone, however. Salimpoor also found that
it was taking in information from the superior
temporal gyrus.

40 "This part of the brain is the part that has stored
all the templates of the music we've heard in the
past and will be unique for each individual," she

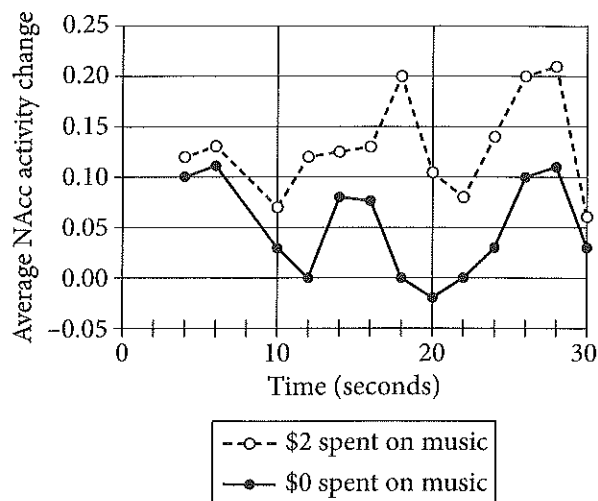
said. "The way that we like music is 100% unique to
who we are and what we've heard in the past and the
45 way that our superior temporal gyrus has been
shaped. The brain is working a bit like a music-
recommendation system."

The latest results shed further light into
Salimpoor's 2011 study, which found that the
50 experience of pleasure when listening to music was
mediated by the release of the brain's reward
chemical, dopamine. She said that music seemed to
tap into the circuitry in the brain that had evolved to
drive human motivation. This ancient reward
55 system, when listening to music, was being used to
provide a cognitive reward.

Professor Sophie Scott, a neuroscientist at
University College London, cautioned that
Salimpoor's results should not be over-interpreted.
60 "It is clearly the case that you get rewards for the
music you like [but] I don't think we listen to music
in any one way, we listen to music in the same way
we read books or read poetry or engage with other
sorts of art," she said. "One of the reasons they are
65 things we like is because we can engage with them in
multiple ways—you could be enjoying music because
of the rhythm, because of the way the singer's
singing, there's so much going on."

Reward was only a snapshot of one particular
70 brain system and its involvement in music, Scott
said. "But don't think it's telling you everything
about the totality of how your brain engages with
music."

Average Activity in Nucleus Accumbens (NAcc)
When Listening to Excerpts of Unfamiliar Music



Adapted from Valorie N. Salimpoor et al., "Interactions between the Nucleus Accumbens and Auditory Cortices Predict Music Reward Value." ©2013 by American Association for the Advancement of Science.

Twenty subjects listened to sixty 30-second song clips and then chose to purchase each clip for \$0, 99¢, \$1.29, or \$2. The researchers averaged the subjects' NAcc activity levels to determine the overall NAcc activity change when the subjects listened to clips they purchased for \$0 and to clips they purchased for \$2.

19

In lines 1 and 18, the words "intense" and "powerful" primarily serve to

- A) strengthen the assertion that individuals have unique music preferences.
- B) illustrate the influence daily activities have on brain activity.
- C) emphasize that many individuals are greatly affected by music.
- D) suggest that dopamine levels frequently fluctuate in an individual.

20

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

- A) liberating.
- B) proclaiming.
- C) surrendering.
- D) producing.

21

Based on information in the passage, eating a delicious meal would most likely cause an individual's brain to

- A) determine that expectations were not satisfied.
- B) release dopamine to prompt a rewarding experience.
- C) suppress a response in the nucleus accumbens.
- D) emit signals to create a display of emotion.

22

According to the author, what did the researchers take into consideration when selecting the songs the subjects would hear?

- A) The commercial success of the songs
- B) The styles of music preferred by the subjects
- C) The actual retail prices of the songs
- D) The songs most recently purchased by the subjects

23

It can reasonably be inferred from the passage that chemical rewards released by the brain mainly serve to

- A) prompt an individual to try new activities that may be enjoyable.
- B) develop new criteria to determine whether an activity is enjoyable.
- C) stimulate the repetition of an enjoyable activity.
- D) inflate the reasons why certain activities are considered enjoyable.

24

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

- A) Lines 17-19 (“What . . . expectation”)
- B) Lines 30-31 (“Immediately . . . decision”)
- C) Lines 48-52 (“The latest . . . dopamine”)
- D) Lines 52-54 (“She . . . motivation”)

25

Which additional study would Scott most likely say would improve our understanding of the brain’s response to art?

- A) A study that attempts to replicate Salimpoor’s findings on the nucleus accumbens
- B) A study that measures how the brain reacts to different musical components
- C) A study that reexamines whether the brain releases chemical rewards
- D) A study that identifies how individuals communicate music preferences to others

26

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

- A) Lines 33-36 (“The brain . . . it”)
- B) Lines 57-59 (“Professor . . . over-interpreted”)
- C) Lines 64-68 (“One . . . going on”)
- D) Lines 69-71 (“Reward . . . said”)

27

What change to the graph would most directly address a concern raised by Scott?

- A) Adding corresponding measurements for other areas of the brain
- B) Recording the NAcc activity only between 10 and 20 seconds
- C) Incorporating the data for music purchased for 99¢ and \$1.29
- D) Including an explanation for the decrease in NAcc activity at 20 seconds

Questions 28-37 are based on the following passage and supplementary material.

This passage is adapted from Vivek Wadhwa, "Innovation without Age Limits." ©2012 by MIT Technology Review. Venture capitalists invest money in companies at very early stages of the companies' development, betting that the companies will eventually be profitable.

Venture capitalists in Silicon Valley prefer to fund the young. Why? The common mantra is that if you are over 35, you are too old to innovate. Some prominent figures are even urging talented young people to skip college, presumably so they do not waste their youth on studying.

To a degree, the cult Silicon Valley has built around young people makes sense—particularly in the Internet and mobile technology industries. The young have a huge advantage because they aren't encumbered by the past. Older technology workers are experts in building and maintaining systems in old computer languages and architectures. They make much bigger salaries. Why should employers pay \$150,000 for a worker with twenty years of irrelevant experience when they can hire a fresh college graduate for \$60,000? After all, the graduate will bring in new ideas and doesn't have to go home early to a family.

But great ideas by themselves don't lead to breakthrough technologies or successful companies. Ideas are a dime a dozen. The value comes from translating ideas and inventions into successful ventures. To do this, you have to collaborate with others, obtain financing, understand markets, price products, develop distribution channels, and deal with rejection and failure. In other words, you need business and management skills and maturity. These come with education, experience, and age.

Indeed, research by my team revealed that the average and median age of the founders of successful U.S. technology businesses (with real revenues) is 39. We found twice as many successful founders over 50 as under 25, and twice as many over 60 as under 20.

So everyone has a shot at success, but it seems age provides a distinct advantage.

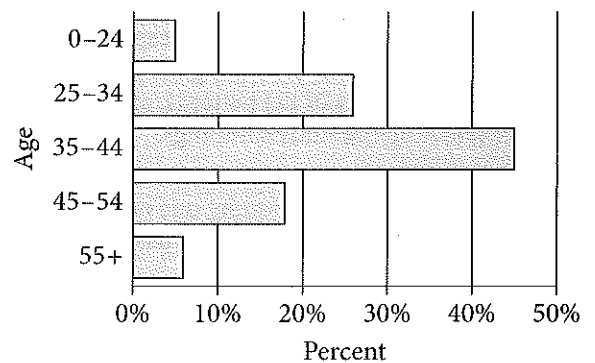
Are venture capitalists misguided, then, in funding companies with baby-faced CEOs? Perhaps one answer lies in the results of a study conducted by the Kauffman Foundation. It found that during the period when funding young technology entrepreneurs became the norm, from 1997 to 2007, the venture industry grew dramatically.

But returns actually stagnated and then declined sharply. The returns of the venture industry lagged behind those of the small-cap Russell 2000 Index¹ by ten percent over the ten-year time frame.

When you meet entrepreneurs in India, Ireland, Brazil, and other parts of the world, you find many of the same dynamics at play. The young have the outrageous ideas, but it's older people who achieve business success. In all these countries, youth entrepreneurship is on the rise. And as in the United States, most of these businesses fail. That's okay when you can learn from your failures and start over—again and again. This has been Silicon Valley's advantage: it accepts failure and encourages entrepreneurs to keep trying. It hasn't been like this in other parts of the country and the world. In most places, if you fail, you don't get a second chance. But cultures are changing. They are beginning to accept failure. So entrepreneurs all over the world are trying again and again. In the process, they are getting older and smarter, and eventually achieving success.

¹ A measure of the stock price of 2,000 small companies

Age of US-Born Technology Entrepreneurs at Time of Company Founding



Adapted from Vivek Wadhwa, Richard Freeman, and Ben Rissing, "Education and Tech Entrepreneurship." ©2008 by Ewing Marion Kauffman Foundation.

The figure refers to US companies with sales in excess of \$1 million.

28

The main purpose of the passage is to

- A) explain the significance of a recently observed change in venture capitalism.
- B) examine an increasingly popular alternative to entrepreneurship.
- C) advocate a method for predicting the success of technology industry companies.
- D) make a claim about the importance of experience to achieving success in the technology industry.

29

In terms of its overall structure, the passage can best be described as first identifying

- A) a perspective shared by many venture capitalists, then citing data that challenge the perspective, and finally noting trends that correspond to those data.
- B) routine practices among venture capitalists, then discussing recent research on those practices, and lastly emphasizing the need for further research.
- C) emerging patterns in venture capitalist investment, then describing the methods of a scholarly study of the patterns, and lastly evaluating the study's findings.
- D) two competing theories about venture capitalism, then critiquing one of those theories, and ending in a call to action based on that critique.

30

Based on the passage, the author would be most likely to agree with which generalization about younger technology workers?

- A) They negotiate the terms of their salaries less aggressively than do older technology workers.
- B) They demonstrate greater knowledge of computer science than do older technology workers.
- C) They are better informed about consumer trends than are older technology workers.
- D) They are able to devise more novel approaches to current challenges than are older technology workers.

31

The passage suggests that in the technology industry, the most effective entrepreneurs are those who can

- A) maintain extended networks of business connections.
- B) merge their vision with the practical demands of running a business.
- C) match their training with new opportunities in the industry.
- D) avoid the mistakes other entrepreneurs have previously made.

32

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

- A) Lines 22-27 ("Ideas . . . failure")
- B) Lines 30-32 ("Indeed . . . is 39")
- C) Lines 33-36 ("We found . . . advantage")
- D) Lines 39-43 ("Perhaps . . . dramatically")

33

As used in line 23, “translating” most nearly means

- A) converting.
- B) interpreting.
- C) simplifying.
- D) transferring.

34

As used in line 45, “sharply” most nearly means

- A) accurately.
- B) abruptly.
- C) expertly.
- D) dangerously.

35

In the passage, the author suggests that failure in entrepreneurship is

- A) becoming understood as a step toward eventual success.
- B) developing into a problem that seems to have no easy solution.
- C) happening only to a particular group of individuals.
- D) masking other failures related to business and management.

36

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

- A) Lines 48-52 (“When . . . success”)
- B) Lines 52-54 (“In all . . . fail”)
- C) Lines 55-56 (“That’s . . . and again”)
- D) Lines 61-65 (“But cultures . . . success”)

37

The figure best supports which assertion about US-born technology entrepreneurs at the time that they founded a company?

- A) The least successful are those under the age of 25.
- B) Fewer than 20% are between the ages of 25 and 34.
- C) The largest group is between the ages of 35 and 44.
- D) There are more between the ages of 45 and 54 than there are between the ages of 25 and 34.

Questions 38-47 are based on the following passage.

This passage is from John Carey, "Architects of the Swamp."
©2013 by Scientific American.

Joy Zedler carefully planned three experimental wetlands at the University of Wisconsin–Madison’s Arboretum to be identical: parallel marshes 295 feet
Line long and 15 feet wide, carved by engineers into the
5 green landscape. Zedler’s contractors planted all three tracts with similar species to see how the vegetation would absorb and clean water runoff during storms.

Zedler’s team also allowed the same amount of
10 water to flow into the test beds from a pond at the front ends of the tracts. They planned to measure the nutrients in the water entering each plot and draining into a basin at the far end, as well as soil stability, water absorption, and the productivity and
15 diversity of the grasses and other plants. The scientists expected that each of the three wetlands would behave similarly.

The stakes were higher than for the typical university project. The city of Madison was
20 keenly interested because it wanted to learn how to use wetlands to slow and cleanse storm water pouring out of town into neighboring Lake Wingra, which is suffering from high levels of nutrients such as nitrogen and phosphorus in the runoff. And the
25 question of how to maximize the many valuable so-called ecosystem services that wetlands can provide, from reducing runoff and flood damage to boosting biodiversity, has been growing more urgent by the year as wetlands worldwide vanish at an
30 alarming rate. Zedler, a professor of botany and restoration ecology at the university, had hoped the experiment would provide some insight.

Three years later, however, it was clear that the experiment had raised new questions the researchers
35 had not anticipated. "Nothing about the system behaved as we supposed," Zedler says. The first surprise: even though the tracts were just three feet apart and had been planted and expected to develop similarly, one plot became dominated by cattails,
40 whereas the other two blossomed with up to 29 plant species. Second, although the cattail plot produced more plant material overall, it was lousy at everything Zedler expected from lush growth. It did

not slow floodwater or control soil erosion. It did not
45 absorb much of the nutrients in the water. The other two tracts provided more of the expected benefits—except for high productivity.

Why the surprising differences? Zedler’s team discovered that a layer of clay under the cattail marsh
50 was slightly thicker and thus less permeable than the layer under the two adjacent plots—so water ponded instead of percolating into the ground. That allowed storm water and nutrients to race down the channel. Meanwhile the cattails shaded out soil-stabilizing
55 moss—which grew well in the neighboring swales—so soil erosion was higher.

Zedler’s unforeseen results are helping her and other experts explain why the track record of past restoration efforts is poor, and they are pointing the
60 way to improving the success rate. The big lesson from multiple investigations is to forget about trying to re-create a fully functioning wetland that is identical to the one being lost. "We don’t know how to do it," says Doug Wilcox, professor of wetland
65 science at the College at Brockport, S.U.N.Y. There are too many variables.

Instead scientists should focus on one or two key objectives, such as rebuilding land, improving water quality or boosting fish populations, and engineer
70 the system to optimize those objectives. Then, once the basic engineering is done, let nature fill in the details as it pleases.

Another lesson is to monitor wetland projects for years, as Zedler continues to do with her experiment.
75 That time is needed to uncover the often surprising details of what works and why and to take corrective action when necessary.

38. Which choice best states the central claim in the passage?

- A) The environmental benefits of re-created wetlands are often underestimated.
- B) Runoff and soil erosion make wetland preservation an urgent priority.
- C) Wetland restoration is best accomplished with limited goals in mind.
- D) Wetlands should be restored only after many years of careful observation.

39. Over the course of the passage, the main focus shifts from

- A) describing an experiment to challenging the results of that experiment.
- B) summarizing a research study to discussing lessons from the study.
- C) explaining a scientist's tentative findings to questioning the interpretation of those findings.
- D) discussing a theory to detailing the difficulties encountered in testing the theory.

40. The first two paragraphs (lines 1-17) serve mainly to

- A) illustrate Zedler's experience with wetlands.
- B) underscore the collaborative nature of Zedler's work in the field of wetland preservation.
- C) explain Zedler's theory about wetland restoration.
- D) describe the design specifications and planning that went into Zedler's wetland tracts.

41. It can reasonably be inferred from the passage that certain nutrients essential for plant growth

- A) are lacking in soil in which cattails are grown.
- B) increase the number of plants but decrease the variety of plants found in wetlands.
- C) can be detrimental in high concentrations to the overall ecology of lakes.
- D) will not be present in a plot if the plot lacks proper drainage.

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

- A) Lines 11-15 ("They . . . plants")
- B) Lines 15-17 ("The scientists . . . similarly")
- C) Lines 19-24 ("The city . . . runoff")
- D) Lines 44-45 ("It did . . . water")

43. As used in line 34, "raised" most nearly means

- A) provoked.
- B) cultivated.
- C) collected.
- D) increased.

1

44

The author states that two of the three experimental wetlands shared which of the following characteristics in comparison with the third?

- A) Less water absorption
- B) Less soil retention
- C) Less total plant mass
- D) Less absorption of nitrogen and phosphorus

45

The passage suggests that one plot became “dominated by cattails” (line 39) because, compared with the other two plots, it

- A) was planted with the seeds of fewer plant species.
- B) had a more substantial clay base.
- C) accumulated a smaller amount of moss.
- D) received more water in the form of runoff.

46

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

- A) Lines 41-43 (“Second . . . growth”)
- B) Lines 45-47 (“The other . . . productivity”)
- C) Lines 48-52 (“Zedler’s . . . ground”)
- D) Lines 54-56 (“Meanwhile . . . higher”)

47

As used in line 59, “poor” most nearly means

- A) needy.
- B) unfertile.
- C) petty.
- D) unsatisfactory.

STOP

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

Do not turn to any other section.