

# 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 Saki, "The Schartz-Metterklume Method." Originally published in 1911.

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

friends and relations were thoroughly well used to the fact of her luggage arriving without her.

She wired a vague non-committal message to her destination to say that she was coming on "by another train." Before she had time to think what her next move might be she was confronted by an imposingly attired lady, who seemed to be taking a prolonged mental inventory of her clothes and looks.

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

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

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

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

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

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

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

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

70 “I shall talk French four days of the week and  
Russian in the remaining three.”

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

75 “That will not embarrass me in the least,” said  
Lady Carlotta coldly.

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

1

Which choice best summarizes the passage?

- A) A woman weighs the positive and negative aspects of accepting a new job.
- B) A woman does not correct a stranger who mistakes her for someone else.
- C) A woman impersonates someone else to seek revenge on an acquaintance.
- D) A woman takes an immediate dislike to her new employer.

2

In line 2, “turn” most nearly means

- A) slight movement.
- B) change in rotation.
- C) short walk.
- D) course correction.

3

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

- A) outspoken.
- B) tactful.
- C) ambitious.
- D) unfriendly.

4

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

- A) Lines 10-14 (“Certain . . . business”)
- B) Lines 22-23 (“It is . . . lady”)
- C) Lines 23-26 (“On this . . . her”)
- D) Lines 30-32 (“She . . . train”)

5

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

- A) foreshadow her capacity for deception.
- B) illustrate the subtle cruelty in her nature.
- C) provide a humorous insight into her character.
- D) explain a surprising change in her behavior.

6

In line 55, “charge” most nearly means

- A) responsibility.
- B) attack.
- C) fee.
- D) expense.

7

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

- A) similar to many of their peers.
- B) unusually creative and intelligent.
- C) hostile to the idea of a governess.
- D) more educated than others of their age.

8

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

- A) traditional values.
- B) active engagement.
- C) artistic experimentation.
- D) factual retention.

9

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

- A) superficially kind but actually selfish.
- B) outwardly imposing but easily defied.
- C) socially successful but irrationally bitter.
- D) naturally generous but frequently imprudent.

10

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

- A) Lines 49-50 (“How . . . careless”)
- B) Lines 62-68 (“I wish . . . memory”)
- C) Lines 70-73 (“I shall . . . Russian”)
- D) Lines 77-82 (“She was . . . apologetic”)

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

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

Though there are 600 million cars on the planet, and counting, there are also seven billion people, which means that for the vast majority of us getting around involves taking buses, ferryboats, commuter  
 Line 5 trains, streetcars, and subways. In other words, traveling to work, school, or the market means being a straphanger: somebody who, by choice or necessity, relies on public transport, rather than a privately owned automobile.

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

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

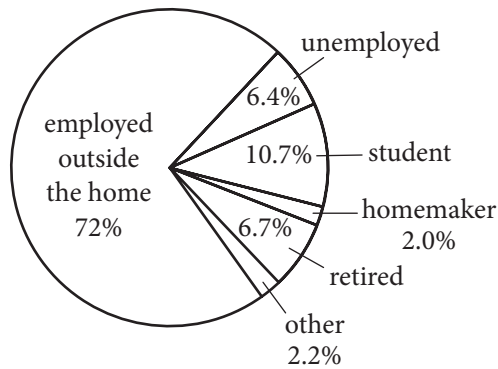
35 It doesn't have to be like this. Done right, public transport can be faster, more comfortable, and cheaper than the private automobile. In Shanghai, German-made magnetic levitation trains skim over elevated tracks at 266 miles an hour, whisking people  
 40 to the airport at a third of the speed of sound. In provincial French towns, electric-powered streetcars run silently on rubber tires, sliding through narrow streets along a single guide rail set into cobblestones. From Spain to Sweden, Wi-Fi equipped high-speed  
 45 trains seamlessly connect with highly ramified metro

networks, allowing commuters to work on laptops as they prepare for same-day meetings in once distant capital cities. In Latin America, China, and India, working people board fast-loading buses that move  
 50 like subway trains along dedicated busways, leaving the sedans and SUVs of the rich mired in dawn-to-dusk traffic jams. And some cities have transformed their streets into cycle-path freeways, making giant strides in public health and safety and  
 55 the sheer livability of their neighborhoods—in the process turning the workaday bicycle into a viable form of mass transit.

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

**Figure 1**

Primary Occupation of Public Transportation Passengers in US Cities

**Figure 2**

Purpose of Public Transportation Trips in US Cities

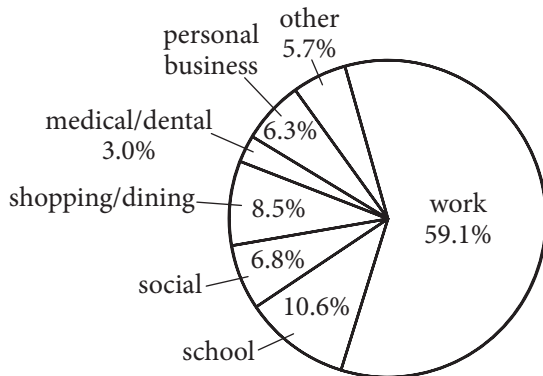


Figure 1 and figure 2 are adapted from the American Public Transportation Association, "A-Profile of Public Transportation Passenger Demographics and Travel Characteristics Reported in On-Board Surveys." ©2007 by American Public Transportation Association.

11

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

- A) It acknowledges that a practice favored by the author of the passage has some limitations.
- B) It illustrates with detail the arguments made in the first two paragraphs of the passage.
- C) It gives an overview of a problem that has not been sufficiently addressed by the experts mentioned in the passage.
- D) It advocates for abandoning a practice for which the passage as a whole provides mostly favorable data.

12

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

- A) Environmental impact
- B) Convenience
- C) Speed
- D) Cost

13

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

- A) Lines 5-9 ("In . . . automobile")
- B) Lines 20-24 ("And . . . car")
- C) Lines 24-26 ("In . . . experience")
- D) Lines 32-34 ("Hopping . . . quickly")

14

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

- A) European countries excel at public transportation.
- B) some public transportation systems are superior to travel by private automobile.
- C) Americans should mimic foreign public transportation systems when possible.
- D) much international public transportation is engineered for passengers to work while on board.

15

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

- A) Line 35 (“It . . . this”)
- B) Lines 35-37 (“Done . . . automobile”)
- C) Lines 37-40 (“In . . . sound”)
- D) Lines 44-48 (“From . . . cities”)

16

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

- A) endow.
- B) attribute.
- C) believe.
- D) honor.

17

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

- A) indulge.
- B) prefer.
- C) resemble.
- D) serve.

18

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

- A) Lines 59-63 (“The . . . subways”)
- B) Lines 63-67 (“Part . . . annoyances”)
- C) Lines 68-70 (“Even . . . ago”)
- D) Lines 77-81 (“Already . . . homes”)

19

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

- A) The number of students using public transportation is greater than the number of retirees using public transportation.
- B) The number of employed people using public transportation and the number of unemployed people using public transportation is roughly the same.
- C) People employed outside the home are less likely to use public transportation than are homemakers.
- D) Unemployed people use public transportation less often than do people employed outside the home.

20

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

- A) are employed outside the home and take public transportation to work.
- B) are employed outside the home but take public transportation primarily in order to run errands.
- C) use public transportation during the week but use their private cars on weekends.
- D) use public transportation only until they are able to afford to buy a car.



**Questions 21-30 are based on the following passage.**

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

At field sites around the world, Ken Dial saw a pattern in how young pheasants, quail, tinamous, and other ground birds ran along behind their  
Line 5 parents. “They jumped up like popcorn,” he said, describing how they would flap their half-formed wings and take short hops into the air. So when a group of graduate students challenged him to come up with new data on the age-old ground-up-tree-down debate, he designed a project  
10 to see what clues might lie in how baby game birds learned to fly.

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

Barely a teenager at the time, young Terry Dial was visibly upset when his father got back. “I asked  
35 him how it went,” Ken recalled, “and he said,

‘Terrible! The birds are cheating!’ ” Instead of flying up to their perches, the baby Chukars were using their legs. Time and again Terry had watched them run right up the side of a hay bale, flapping all the  
40 while. Ken dashed out to see for himself, and that was the “aha” moment. “The birds were using their wings and legs cooperatively,” he told me, and that single observation opened up a world of possibilities.

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

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

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

21

Which choice best reflects the overall sequence of events in the passage?

- A) An experiment is proposed but proves unworkable; a less ambitious experiment is attempted, and it yields data that give rise to a new set of questions.
- B) A new discovery leads to reconsideration of a theory; a classic study is adapted, and the results are summarized.
- C) An anomaly is observed and simulated experimentally; the results are compared with previous findings, and a novel hypothesis is proposed.
- D) An unexpected finding arises during the early phase of a study; the study is modified in response to this finding, and the results are interpreted and evaluated.

22

As used in line 7, “challenged” most nearly means

- A) dared.
- B) required.
- C) disputed with.
- D) competed with.

23

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

- A) The acquisition of flight in young birds sheds light on the acquisition of flight in their evolutionary ancestors.
- B) The tendency of certain young birds to jump erratically is a somewhat recent evolved behavior.
- C) Young birds in a controlled research setting are less likely than birds in the wild to require perches when at rest.
- D) Ground-dwelling and tree-climbing predecessors to birds evolved in parallel.

24

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

- A) Lines 1-4 (“At field . . . parents”)
- B) Lines 6-11 (“So when . . . fly”)
- C) Lines 16-19 (“When . . . measured”)
- D) Lines 23-24 (“At first . . . the ground”)

25

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

- A) reveal Ken Dial’s motivation for undertaking his project.
- B) underscore certain differences between laboratory and field research.
- C) show how an unanticipated piece of information influenced Ken Dial’s research.
- D) introduce a key contributor to the tree-down theory.

26

After Ken Dial had his “aha’ moment” (line 41), he

- A) tried to train the birds to fly to their perches.
- B) studied videos to determine why the birds no longer hopped.
- C) observed how the birds dealt with gradually steeper inclines.
- D) consulted with other researchers who had studied Chukar Partridges.

27

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

- A) The speed with which they climbed
- B) The position of their flapping wings
- C) The alternation of wing and foot movement
- D) Their continual hopping motions



28

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

- A) portray.
- B) record.
- C) publish.
- D) process.

29

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

- A) Their young tend to hop along beside their parents instead of flying beside them.
- B) Their method of locomotion is similar to that of ground birds.
- C) They use the ground for feeding more often than for perching.
- D) They do not use a flapping stroke to aid in climbing slopes.

30

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

- A) Lines 4-6 (“They jumped . . . air”)
- B) Lines 28-29 (“They really . . . traveling”)
- C) Lines 57-59 (“The birds . . . slopes”)
- D) Lines 72-74 (“something . . . theory”)

**Questions 31-41 are based on the following passages.**

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

**Passage 1**

That half the human race is excluded by the other half from any participation in government; that they are native by birth but foreign by law in the very land where they were born; and that they are  
Line 5 property-owners yet have no direct influence or representation: are all political phenomena apparently impossible to explain on abstract principle. But on another level of ideas, the question changes and may be easily resolved. The purpose of  
10 all these institutions must be the happiness of the greatest number. Everything that leads us farther from this purpose is in error; everything that brings us closer is truth. If the exclusion from public employments decreed against women leads to a  
15 greater sum of mutual happiness for the two sexes, then this becomes a law that all Societies have been compelled to acknowledge and sanction.

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

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

### Passage 2

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

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

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

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

31

As used in line 21, “common” most nearly means

- A) average.
- B) shared.
- C) coarse.
- D) similar.

32

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

- A) are rewarding for men as well as for women.
- B) yield less value for society than do the roles performed by men.
- C) entail very few activities that are difficult or unpleasant.
- D) require skills similar to those needed to run a country or a business.

33

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

- A) Lines 4-6 (“they are . . . representation”)
- B) Lines 13-17 (“If the . . . sanction”)
- C) Lines 25-30 (“Is it . . . home”)
- D) Lines 30-35 (“And . . . manner”)

34

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

- A) enjoy personal happiness and financial security.
- B) follow all currently prescribed social rules.
- C) replace men as figures of power and authority.
- D) receive an education comparable to that of men.

35

As used in line 50, “reason” most nearly means

- A) motive.
- B) sanity.
- C) intellect.
- D) explanation.

36

In Passage 2, the author claims that freedoms granted by society’s leaders have

- A) privileged one gender over the other.
- B) resulted in a general reduction in individual virtue.
- C) caused arguments about the nature of happiness.
- D) ensured equality for all people.

37

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

- A) Lines 41-45 (“Contending . . . virtue”)
- B) Lines 45-47 (“truth . . . practice”)
- C) Lines 65-66 (“If so . . . rest”)
- D) Lines 72-75 (“Consider . . . happiness”)

38

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

- A) call into question the qualifications of the authors of Passage 1 regarding gender issues.
- B) dispute the assertion made about women in the first sentence of Passage 1.
- C) develop her argument by highlighting what she sees as flawed reasoning in Passage 1.
- D) validate the concluding declarations made by the authors of Passage 1 about gender roles.

39

Which best describes the overall relationship between Passage 1 and Passage 2?

- A) Passage 2 strongly challenges the point of view in Passage 1.
- B) Passage 2 draws alternative conclusions from the evidence presented in Passage 1.
- C) Passage 2 elaborates on the proposal presented in Passage 1.
- D) Passage 2 restates in different terms the argument presented in Passage 1.

40

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

- A) Their natural preferences were the same as those of men.
- B) They needed a good education to be successful in society.
- C) They were just as happy in life as men were.
- D) They generally enjoyed fewer rights than men did.

41

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

- A) Women are not naturally suited for the exercise of civil and political rights.
- B) Men and women possess similar degrees of reasoning ability.
- C) Women do not need to remain confined to their traditional family duties.
- D) The principles of natural law should not be invoked when considering gender roles.

**Questions 42-52 are based on the following passage and supplementary material.**

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

Honey bees are hosts to the pathogenic large ectoparasitic mite *Varroa destructor* (Varroa mites).

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

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

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

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

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

**Pathogen Occurrence in Honey Bee Colonies With and Without Colony Collapse Disorder**

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

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

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

42

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

- A) They create an optimistic tone that makes clear the authors are hopeful about the effects of their research on colony collapse disorder.
- B) They create a dubious tone that makes clear the authors do not have confidence in the usefulness of the research described.
- C) They create a tentative tone that makes clear the authors suspect but do not know that their hypothesis is correct.
- D) They create a critical tone that makes clear the authors are skeptical of claims that pyrethrums are inherent in mono-crops.

43

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

- A) Honeybees that are exposed to both pyrethrums and mites are likely to develop a secondary infection by a virus, a bacterium, or a fungus.
- B) Beekeepers who feed their honeybee colonies a diet of a single crop need to increase the use of insecticides to prevent mite infestations.
- C) A honeybee diet that includes pyrethrums results in honeybee colonies that are more resistant to mite infestations.
- D) Humans are more susceptible to varroa mites as a result of consuming nutritionally deficient food crops.

44

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

- A) Lines 3-5 (“These mites . . . viruses”)
- B) Lines 16-18 (“In fact . . . cream”)
- C) Lines 19-21 (“We suspect . . . deficient”)
- D) Lines 24-28 (“Without . . . bees”)

45

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

- A) They increase certain mite populations.
- B) They kill some beneficial forms of bacteria.
- C) They destroy bees’ primary food source.
- D) They further harm the health of some bees.

46

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

- A) Lines 1-2 (“Honey bees . . . mites”)
- B) Lines 6-7 (“Little . . . control”)
- C) Lines 31-35 (“In addition . . . infestation”)
- D) Lines 47-50 (“Mites . . . control colonies”)

47

As used in line 35, “postulate” most nearly means to

- A) make an unfounded assumption.
- B) put forth an idea or claim.
- C) question a belief or theory.
- D) conclude based on firm evidence.

48

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

- A) summarize the results of an experiment that confirmed the authors’ hypothesis about the role of clover in the diets of wild-type honeybees.
- B) propose an experiment to investigate how different diets affect commercial honeybee colonies’ susceptibility to mite infestations.
- C) provide a comparative nutritional analysis of the honey produced by the experimental colonies and by the control colonies.
- D) predict the most likely outcome of an unfinished experiment summarized in the third paragraph (lines 19-41).

49

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

- A) do not produce pyrethrums.
- B) are members of the *Chrysanthemum* genus.
- C) are usually located near wild-type honeybee colonies.
- D) will not be a good food source for honeybees in the control colonies.

50

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

- A) 0 percent
- B) 77 percent
- C) 83 percent
- D) 100 percent

51

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

- A) IAPV
- B) KBV
- C) *Nosema apis*
- D) *Nosema ceranae*

52

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

- A) Yes, because the data provide evidence that infection with a pathogen caused the colonies to undergo colony collapse disorder.
- B) Yes, because for each pathogen, the percent of colonies infected is greater for colonies with colony collapse disorder than for colonies without colony collapse disorder.
- C) No, because the data do not provide evidence about bacteria as a cause of colony collapse disorder.
- D) No, because the data do not indicate whether the honeybees had been infected with mites.

# STOP

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

**Do not turn to any other section.**