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 Jane Austen, Mansfield Park, originally published in 1814. Sir Thomas, a rich man, is telling Fanny, the poor niece he raised from age ten, that their neighbor wishes to speak to her to continue his courtship of her.

Mr. Crawford, as you have perhaps foreseen, is yet in the house. He is in my room, and hoping to see you there."

There was a look, a start, an exclamation on hearing this, which astonished Sir Thomas; but what was his increase of astonishment on hearing her exclaim—"Oh! no, sir, I cannot, indeed I cannot go down to him. Mr. Crawford ought to know—he must know that: I told him enough yesterday to convince him; he spoke to me on this subject yesterday, and I told him without disguise that it was very disagreeable to me, and quite out of my power to return his good opinion."

"I do not catch your meaning," said Sir Thomas, sitting down again. "Out of your power to return his good opinion? What is all this? I know he spoke to you yesterday, and (as far as I understand) received as much encouragement to proceed as a well-judging young woman could permit herself to give. I was very much pleased with what I collected to have been your behaviour on the occasion; it shewed a discretion highly to be commended. But now, when he has made his overtures so properly, and honourably—what are your scruples now?"

"You are mistaken, sir," cried Fanny, forced by the anxiety of the moment even to tell her uncle that he was wrong; "you are quite mistaken. How could Mr. Crawford say such a thing? I gave him no encouragement yesterday. On the contrary, I told him, I cannot recollect my exact words, but I am sure I told him that I would not listen to him, that it was very unpleasant to me in every respect, and that I begged him never to talk to me in that manner again. I am sure I said as much as that and more; and I should have said still more, if I had been quite certain of his meaning anything seriously; but I did not like to be, I could not bear to be, imputing more than might be intended. I thought it might all pass for nothing with him."

She could say no more; her breath was almost gone.

"Am I to understand," said Sir Thomas, after a few moments' silence, "that you mean to refuse Mr. Crawford?"

"Yes, sir."

"Refuse him?"

"Yes, sir."

"Refuse Mr. Crawford! Upon what plea? For what reason?"

"I—I cannot like him, sir, well enough to marry him."

"This is very strange!" said Sir Thomas, in a voice of calm displeasure. "There is something in this which my comprehension does not reach. Here is a young man wishing to pay his addresses to you, with everything to recommend him: not merely situation in life, fortune, and character, but with more than common agreeableness, with address and

CONTINUE

conversation pleasing to everybody. And he is not an acquaintance of to-day; you have now known him some time. His sister, moreover, is your intimate friend."

"Yes," said Fanny, in a faint voice, and looking down with fresh shame; and she did feel almost ashamed of herself, after such a picture as her uncle had drawn, for not liking Mr. Crawford.

"You must have been aware," continued Sir Thomas presently, "you must have been some time aware of a particularity in Mr. Crawford's manners to you. This cannot have taken you by surprise. You must have observed his attentions; and though you always received them very properly (I have no accusation to make on that head), I never perceived them to be unpleasant to you. I am half inclined to think, Fanny, that you do not quite know your own feelings."

"Oh yes, sir! indeed I do. His attentions were always—what I did not like."

Sir Thomas looked at her with deeper surprise. "This is beyond me," said he. "This requires explanation. Young as you are, and having seen scarcely any one, it is hardly possible that your affections—"

He paused and eyed her fixedly. He saw her lips formed into a no, though the sound was inarticulate, but her face was like scarlet. That, however, in so modest a girl, might be very compatible with innocence; and chusing at least to appear satisfied, he quickly added, "No, no, I know ***that*** is quite out of the question; quite impossible. Well, there is nothing more to be said."

And for a few minutes he did say nothing. He was deep in thought. His niece was deep in thought likewise, trying to harden and prepare herself against farther questioning.

1

What is the relationship between Sir Thomas's view and Fanny's view of Mr. Crawford's intentions?

A) Sir Thomas is approving, while Fanny is displeased.
B) Sir Thomas is indifferent, while Fanny is interested.
C) Sir Thomas is shocked, while Fanny is unsurprised.
D) Sir Thomas is perplexed, while Fanny is assured.

2

The words "look," "start," and "exclamation"（line 4) serve which purpose?

A) They establish a character's nervous temperament.
B) They indicate the unexpected nature of a character's decision.
C) They emphasize the strength of a character s reaction.
D) They suggest the importance of a characters announcement.

3

In the passage, Mr. Crawford's feelings for Fanny are best described

A) passionate.
B) unreturned.
C) possessive.
D) fickle

4

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

A) Lines 9-13 ("I told... opinion")
B) Lines16-19("I know...give")
C) Lines53-54("There...reach")
D) Lines70-71("This...surprise")

CONTINUE

5

As used in line 14, the word "catch" most nearly means

A) stick.
B) confuse.
C) fasten.
D) comprehend.

6

Based on the passage, which of the following inferences can most plausibly be drawn about the interactions between Fanny and Mr. Crawford?

A) Fanny did not express her wishes to Mr.Crawford as clearly as she thought.
B) Fanny was unsure of the nature of her feelings for Mr. Crawford.
C) Mr. Crawford did not make his intentions sufficiently clear to Fanny.
D) Mr. Crawford changed hi Fanny's reaction.

7

The series of interruptions to Fanny's speech in lines 28-39("I gave...him")serve to

A) imply that she is not telling the truth.
B) suggest that she is highly agitated.
C) show that she is not yet sure of what she wants
D) indicate that Sir Thomas will not let her finish.

8

Based on the passage, which of the following is indisputably true about Mr. Crawford?

A) He is unattractive.
B) He is dishonest.
C) He is stubborn.
D) He is wealthy

9

In line 89,"that"most likely refers to the idea that Fanny

A) is too innocent to understand Mr. Crawford's meaning.
B) is impossible to persuade.
C) may have formed an attachment to someone else.
D) may be too young to accept Mr. Crawford's proposal.

10

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

A) Lines 77-78 ("Oh ... like"）
B) Lines 81-83 ("Young …affections")
C) Lines 86-88 ("That …innocence")
D) Lines 93-95 ("His niece …questioning")

CONTINUE

Question 11-20 are based on the following passages.

This passage is adapted from Eric Jaffe, "Digital Cameras Are Messing With Your Memory."©2013 by Mansueto Ventures LLC.

Socrates once feared that technology would corrupt human memory. Quaint as it sounds today, he was worried about a form of communication called writing. The more easily people could access something in a document, he reasoned, the less inclined they'd be to remember it.

The great philosopher's point rings as true in the digital age as it did in ancient Greece. Recent tests have found that people who think a computer will save their information recall much less of it than those led to believe the machine will delete it. A difficult trivia question is as likely to bring Google to mind as it is the answer.

Fairfield University psychologist Linda Henkel believes something similar may be happening with digital photography. The more easily people can take and access pictures, she says, the less inclined they may be to remember the moment itself. "You're just kind of mentally discounting it – thinking, 'Well, the camera's got it," Henkel says.

Henkel draws that conclusion from a study she recently conducted at the Bellarmine Museum of Art on Fairfield's campus. In one of her experiments, she gave test participants a digital camera and an itinerary of museum objects to view. Some of the objects were simply observed. Some were photographed whole with the digital camera. Some were photographed with explicit instructions to zoom in on a detail.

The following day, Henkel gathered the participants and tested their memories about the museum experience. She showed them the names (or pictures) of all the objects they'd seen, as well as 10 they hadn't, and asked them whether or not they'd gone up to the item, and if so whether they'd simply observed it or photographed it. For each item they said they saw, she also questioned them about a detail.

Socrates would have enjoyed the results. Test participants recognized fewer objects they'd photographed whole than those they'd observed on their museum tour (from both the list of names and the roster of pictures). They were also much less accurate in recalling visual details of museum objects they'd photographed whole, compared with those they'd only observed. Simply put, they took the picture and missed the moment.

Henkel calls her finding the"photo-taking -impairment effect." When people know a camera will document an object or event, they may well dismiss it from their own mind. Digital cameras seem particularly conducive to the effect since it's far easier (and cheaper) to take and store digital pictures than it is to develop film or compile photo albums.

In other words, the facility of digital photography may well come at the cost of cognitive engagement. "I think it's about the mindlessness with which people approach the task," says Henkel. "If you treat acquiring the photograph as if it's just something to get off your checklist – been there, done that, check – that's what's going to create this dismiss-this-from-memory thing."

The experiment also revealed an important limitation of the photo-taking-impairment effect. When test participants zoomed in on an object, they remembered it as vividly as those objects they had observed (and, of course, far better than the ones they'd photographed whole). What's more, participants even remembered details about the object that they ***hadn't*** zoomed in on.

Henkel suspects that zooming triggered a completely different cognitive process. While the rote act of photographing a whole object led a person to dismiss it from memory, the slight uptick in focus required to zoom in on a detail caused the same person to absorb the scene as if there were no camera present at all. The brief mental climb from click to zoom-click was enough to overcome the impairment effect.

Of course, an impaired memory for photographs doesn't have to be a bad thing at all. Looking at photographs later on does help recover memories of the moments in question, just as a quick web search helps recover information. In that sense, the transfer system is working as expected. Socrates might have frowned on shifting knowledge into documents, but no less a mind than Einstein once advised people not to memorize what they could easily look up in books.

CONTINUE

Percent of Questions Answered Correctly about Objects' Visual Details and Locations as a Function of Photographing or Observing the Objects

Experiment And measure	Photographed museum object		Observed Museum object
	Whole object	Zoomed In on part	
Experiment 1: Recalling visual Detail of object	55%	-	64%
Experiment 2-1: Recalling visual Detail of object	38%	46%	44%
Experiment 2-2: Recalling location of object in the museum	67%	45%	74%

Adapted from Linda A. Henkel, "Point-and-Shoot Memories; The Influence of Taking Photos on Memory for a Museum Tour."
©2013 by Linda A. Henkel.

11

Which choice best supports the idea that modern technology has reduced people's reliance on memory?

A) Lines 1-2（"Socrates... memory"）
B) Lines 4-6 ("The more... remember it")
C) Lines 8-11 ("Recent... delete it")
D) Lines 21-23 ("Henkel... campus")

12

Henkel's study supported which claim about photographing an art object in its entirety?

A) Photographing a whole art object diminishes one's awareness of it.
B) Photographing a whole art object enhances visual recall.
C) Photographing a whole art object permits one to study its composition in detail.
D) Photographing a whole art object has no impact on memory.

13

As used in line55,"facility"most nearly means

A) effortlessness.
B) competence.
C) aptitude.
D) equipment

CONTINUE

14

The main purpose of the authors use of italics for the word "***hadn't***"in line 70 is to

A) call an interpretation into question.
B) imply that a claim is not to be taken literally.
C) underscore the unexpectedness of a result.
D) draw attention to a key omission..

15

In the course of its discussion of how photographing an object affects one's recollection of it, the passage implies that

A) an understanding of a work of art becomes clearer the more time a person spends taking pictures of the work.
B) increasing one's concentration minimally can result in recall as good as that associated with direct observation.
C) photographing something up close can distort a person's impression of the photograph's subject.
D) zooming in on an object restricts one's focus and therefore makes one less likely to remember the object as a whole.
E) You may wechat or taobao kangkanglaoshi to find the answers and video course of this test.

16

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

A) Lines 55-56 ("In other... engagement"）
B) Lines 63-64 ("The experiment …effect"）
C) Lines 71-72 ("Henkel... process")
D) Lines 74-77 ("the slight... all")

17

The main purpose of the last paragraph is to

A) indicate that a phenomenon may not be entirely troublesome
B) Suggest that an established way of thinking has undergone a radical transformation.
C) Imply that certain historical figures misunderstood the function of human memory.
D) Argue against a series of concerns about the impact of new technologies.

18

According to the table, what percent of participants in experiment 2 were able to recall visual details of objects they photographed in part?answer to the previous question?

A) 74%
B) 55%
C) 46%
D) 38%

19

The table indicates that participants were LEAST likely to recall the location of an object when they

A) looked at it without taking a picture of it.
B) zoomed in on it with the camera.
C) photographed it in its entirety.
D) captured images of other nearby objects.

CONTINUE

20

Based on information provided in the table, which statement is true of both experiments?

A) Photographing a whole object leads to a less accurate recollection than does observing it.

B) Photographing a whole object leads to the most accurate recollection of its location.

C) Photographing part of an object leads to a more accurate recollection of detail than does observing it.

D) Photographing part of an object leads to greater accuracy in recalling the object's location than does merely observing it.

Question 21-31 are based on the following passages.

This passage is adapted Kangkanglaoshi Mlot," Mini Moose Evolve on Isle Royale." ©2011 by American Institute of Biological Sciences..

Rows of moose skulls, moose antlers, and club-size moose metatarsal bones fill a clearing behind the weathered wooden cottage where biologist Rolf Peterson has spent the last 40 summers, on Isle Royale, Michigan. Hauled each year from the spruce bogs and fir forests on the Lake Superior island, the display is part of the world's largest collection of moose bones.

The bones tell many tales—of periodontal disease and arthritis, of lean years and flush years, of two bulls that crossed antlers in a duel and died that way, racks locked. Most famously, they tell a long-running tale of predator and prey, of how wolf numbers have affected moose numbers, and vice versa. Now Peterson, John Vucetich, and their colleagues have extracted a new evolutionary tale from the bones: Living on the island downsized the moose.

The phenomenon has been found elsewhere: Mini hippos and elephants once resided on Mediterranean islands, and a hobbit-like human ancestor lived on an island in what is now Indonesia. Limited resources can account for this ***island rule***, and that seems to have been the case for Isle Royale's moose, says Peterson, at least for the first half of their history.

That history dates back to the early 1900s, when a few Canadian moose probably swam 20 miles of Lake Superior to the 210-square-mile island of predator-free boreal forest. They displaced the caribou, gorged on bog plants in summer and balsam fir in winter, and exploded in number, reaching several thousand in the 1920s. Their free rein ended in 1949, when a curious pair of Canadian wolves managed the same journey across a frozen lake and claimed the new territory. Ten years later, when Kangkanglaoshi Allen of Purdue University began studying the predator-prey interaction, the wolves were up to 20 and the moose down to 538. The two population numbers have seesawed ever since.

Peterson, who joined the project as a graduate student in 1970 and later moved to

CONTINUE

Michigan Technological University in Houghton, was teaching dissection using some moose metatarsal bones that he had collected from mainland Michigan. (The metatarsus in a moose makes up the hind leg and serves as a proxy for body size.) Peterson noticed that their size was "consistently above the average for Isle Royale moose. Then when researchers in Minnesota started collaring moose and making collections from dead animals, I saw an opportunity to collect enough moose bones to do a respectable comparison."

Researchers measured the length of more than 1000 metatarsal bones collected on Isle Royale and found that the mean was significantly shorter than that of bones collected from nearby mainland moose, by about 9 millimeters for females and double that for males. The difference with moose bones collected from mainland Sweden and Alaska was even greater; Isle Royale moose, it seems, may be among the smallest in the world.

Shripad Tuljapurkar, a Stanford University evolutionary biologist who has worked on the evolution of phenotypic traits, calls the paper "an insightful historical analysis that provides valuable detail about evolution in a large mammalian species and marches with the general island rule." The detail, he notes, should help in creating analytical models of size change for species with island and mainland populations.

Although the island's limited resources have downsized the moose, ongoing research suggests that another evolutionary process has been countering that force: Wolf predation seems to be selecting for larger moose. Smaller moose are more likely to end up as wolf fare, and that preference shows up in the bone collection: The longer the metatarsus was, the older the moose was, which makes it more likely that the moose had had more offspring. And since most of the metatarsus develops *in utero* and is fully grown by the time the moose is one to two years old, "the pattern of increasing bone length with increasing age can't have a physiological explanation," says Vucetich.

That leaves the role of the wolves, which creates another evolutionary tale. "Darwin was keen that predators shape the lives of their prey," says Vucetich. What is distinctive, he notes, is the wolves' effect on the body size of a large, long-lived vertebrate and during a relatively short period. "Even though it's 50 years, it's very brief in evolutionary time."

Figure 1

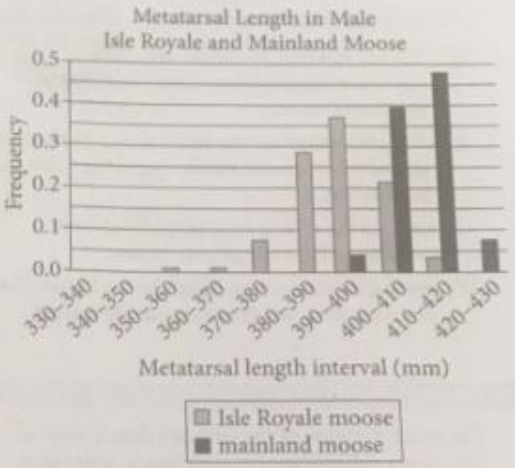
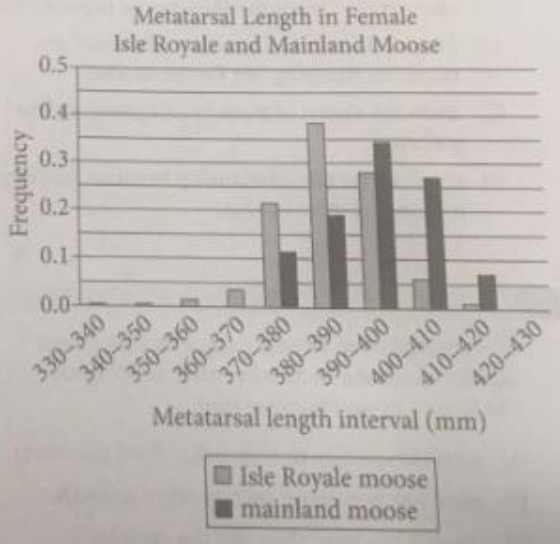


Figure 2



Figures adapted from Rolf O. Peterson et al., "Phenotypic Variation in Moose: The Island Rule and the Moose of Isle Royale." ©2011 by Rolf O. Peterson et al.

CONTINUE

21

The primary purpose of the passage is to

A) Discuss research about the effects of environmental factors on the body size of Isle Royale moose.
B) Describe a study of the relationship between wolf population size and moose population size on Isle Royale.
C) Explain the ecological changes that have endangered the Isle Royale moose.
D) resolve a controversy about the evolution of a new species of small moose on Isle Royale.

22

The main purpose of the author's description of Peterson's collection of moose bones in the first paragraph is to

A) suggest that the bones of the Isle Royale moose show traits absent in other moose populations.
B) identify the central question addressed by scientists studying Isle Royale moose.
C) show the extent of evidence a researcher has gathered.
D) characterize the relationship between Isle Royale moose and their habitat.

23

The passage most strongly suggests that moose rapidly increased in number after arriving on Isle Royale in part because they

A) adapted quickly to unfamiliar food resources.
B) were not preyed on by any other animals.
C) needed less food than did the caribou.
D) already had evolved a smaller average body size

24

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

A) Lines14-17("Now...moose")
B) Lines21-24("Limited...history")
C) Lines25-28("That...forest")
D) Lines28-31("They...1920s")

25

As used in line 44,"makes up"most nearly means

A) Reconciles.
B) Arranges.
C) Forms.
D) Balances.

26

In saying that Peterson's analysis"marches with the general island rule"(line 70),Tuljapurkar most likely means that Peterson's analysis

A) is consistent with the island rule.
B) displays a familiarity with the island rule.
C) serves as proof of the island rule.
D) is comparable to the island rule.

CONTINUE

27

What evidence in the passage supports the claim that wolf predation may be leading to larger body size in Isle Royale moose?

A) A comparison of the metatarsal lengths in mainland and Isle Royale moose before and after the arrival of wolves on Isle Royale

B) A correlation between moose metatarsal length and age that is not attributable to normal growth patterns

C) Data pointing to a rise in the wolf population and a corresponding decrease in the moose population

D) The demonstrated tendency for large mammalian species to follow the island rule in the face of limited resources

E) You may wechat or taobao kangkanglaoshi to find the answers and video course of this test.

28

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

A) Lines34-37("Ten... 538")

B) Lines 70-74 ("Although ... larger moose")

C) Lines 78-83 ("And ... Vucetich")

D) Lines 87-89 ("What... period"）

29

According to figure 1, the metatarsal length interval with the highest frequency in male Isle Royale moose is

A) 370-380 mm.

B) 380-390 mm.

C) 390-400 mm.

D) 410-420 mm.

CONTINUE

30

Which statement about the metatarsal length in female moose is best supported by figure 2?

A) Metatarsal lengths below 380mm have not been observed in mainland moose
B) The metatarsal length interval with the highest frequency in Isle Royale moose is 390-400 mm.
C) Metatarsals of 400-410 mm in length occur with a frequency greater than 0.1 in Isle Royale moose
D) Some Isle Royale and mainland moose have metatarsals at least 410 mm long.

31

Data presented in the figures most directly support which statement about metatarsal lengths in mainland moose?

A) The metatarsal length interval with the highest frequency in females includes greater lengths than the metatarsal length interval with the highest frequency in males.
B) More female metatarsals have been recovered than male metatarsals.
C) In males frequency increases as metatarsal length increases,whereas in females frequency decreases as metatarsal length increases.
D) Female metatarsal lengths span a greater number of length intervals than do male metatarsal lengths

Questions 32-42 are based on the following passages.

Passage 1 is adapted from Betty Friedan, The Feminine Mystique. 1963 by Betty Friedan. Passage 2 is adapted from the Statement of Purpose and the Bill of Rights of the National Organization for Women (NOW), adopted at NOW's first national conference in 1966.

Passage 1

The problem lay buried, unspoken, for many years in the minds of American women. It was a strange stirring, a sense of dissatisfaction, a yearning that women suffered in the middle of the twentieth century in the United States. Each suburban wife struggled with it alone. As she made the beds, shopped for groceries, matched slipcover material, ate peanut butter sandwiches with her children, chauffeured Cub Scouts and Brownies, lay beside her husband at night--she was afraid to ask even of herself the silent question--"Is this all?"

For over fifteen years there was no word of this yearning in the millions of words written about women, for women, in all the columns, books and articles by experts telling women their role was to seek fulfillment as wives and mothers. Over and over women heard in voices of tradition and of Freudian sophistication that they could desire--no greater destiny than to glory in their own femininity. Experts told them how to catch a man and keep him .... how to breastfeed children and handle their toilet training, how to cope with sibling rivalry and adolescent rebellion; how to buy a dishwasher, bake bread, cook gourmet snails, and build a swimming pool with their own hands; how to dress, look, and act more feminine and make marriage more exciting; how to keep their husbands from dying young and their sons from growing into delinquents. They were taught to pity the neurotic, unfeminine, unhappy women who wanted to be poets or physicists or presidents. They learned that truly feminine women do not want careers, higher education, political rights---the independence and the opportunities that the old-fashioned feminists fought for. Some women, in their forties and fifties, still remembered painfully giving up those dreams, but most of the younger women no longer even thought about them. A thousand expert voices applauded their femininity, their adjustment, their new maturity. All they had to do was devote their lives from earliest girlhood to finding a husband and bearing children.

CONTINUE

Passage 2

Statement of Purpose

We, men and women who hereby constitute ourselves as the National Organization for Women, believe that the time has come for a new movement toward true equality for all women in America, and toward a fully equal partnership of the sexes, as part of the world-wide revolution of human rights now taking place within and beyond our national borders….

We reject the current assumptions that a man must carry the sole burden of supporting himself, his wife, and family, and that a woman is automatically entitled to lifelong support by a man upon her marriage, or that marriage, home and family are primarily woman's world and responsibility — hers, to dominate — his to support. We believe that a ***true*** partnership between the sexes demands a different concept of marriage, an equitable sharing of the responsibilities of home and children and of the economic burdens of their support….

In the interests of the human dignity of women, we will protest, and endeavor to change, the false image of women now prevalent in the mass media, and in the texts, ceremonies, laws, and practices of our major social institutions. Such images perpetuate contempt for women by society and by women for themselves….

We believe that women will do most to create a new image of women by acting now, and by speaking out in behalf of their own equality, freedom, and human dignity – not in pleas for special privilege, nor in enmity toward men, who are also victims of the current, half-equality between the sexes -- but in an active, self-respecting partnership with men.

We Demand:

That the U.S. Congress immediately pass the Equal Rights Amendment to the Constitution to provide that "Equality of rights under the law shall not be denied or abridged by the United States or by any state on account of sex" and then such then be immediately ratified by the several states.

32

The main effect of the references in lines 3-4 to "a strange stirring," "a sense of dissatisfaction," and "a yearning" is to

A) draw attention to a subtle historical change.
B) acknowledge a feeling of repressed discontent.
C) reveal a dilemma's underlying cause.
D) express contempt for a series of activities.

33

Which of the following does Passage 1 suggest about publications for and about women in the mid-twentieth-century United States?

A) They contained numerous advertisements tor household products.
B) They were filled with advice columns devoted to working women's careers.
C) They were almost all written and published by men.
D) They neglected to challenge the mainstream view of suburban women's circumstances.

34

The author of Passage 1 mentions "voices of tradition and of Freudian sophistication"（lines 17-18) most likely in order to

A) allude to literary works frequently read by women.
B) show that scientific findings about women's needs often differed from received wisdom.
C) suggest that women received the same advice from a range of sources.
D) characterize the tone of most writing addressed to women.

CONTINUE

35

Based on Passage 1, in the United States in the mid-twentieth century, women who valued career success were generally

A) envy.
B) ridicule.
C) outrage.
D) condescension.

36

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

A) Lines 1-2 ("The... women")
B) Lines 27-30 ("They...presidents!")
C) Lines 33-36 ("Some... them")
D) Lines 38-40 ("All...children")

37

Passage 2 is written from the point of view of a

A) citizen asking for answers.
B) historian providing details.
C) journalist relating facts.
D) group demanding change.

38

Which choice provides the best evidence for the idea that members of the National Organization for Women were inspired by global events?

A) Lines 41-48 ("We, men... borders")
B) Lines 49-55 ("We reject... support")
C) Lines 55-59 ("We believe... support")
D) Lines 60-64 ("In the... institutions")

39

As used in line 56, "true" most nearly means

A) Loyal.
B) Genuine.
C) Acceptable.
D) Consistent.

40

The people viewed as "expert voices"(line 37)in passage 1 would most likely consider the "new movement"(line 43)discussed in Passage 2 to be

A) Cynical, since men are clearly its main proponents.
B) Overdue, since women have already begun to seek new responsibilities.
C) Desirable, because certain tasks have disproportionately fallen to men.
D) Unnecessary, because the current state of affairs satisfies women.

41

Unlike Passage 1, Passage 2 strongly suggests that

A) Men are unfairly burdened by financial responsibilities.
B) The media attempt to present accurate images of women.
C) Women in the mid-twentieth-century United States were unhappy.
D) Experts have been giving women misinformation.

42

In contrast to Passage 1, Passage 2 makes use of

A) An ironic tone for humorous effect.
B) Examples of gender-based roles.
C) Calls for specific action.
D) References to specific individuals.

CONTINUE

Question 43-52 are based on the following passages and supplementary material.

This passage is adapted from Fenella Saunders, "Copper Heal Thyself." 2010 by Sigma Xi, The Scientific Research Society.

A single particle, such as an atom or a neutron, when fired into a piece of copper, causes a fountainlike cascade of disturbance, knocking countless copper atoms out of their positions in the metal's crystalline structure. A few trillionths of a second later, most of the atoms settle back into the crystal's lineup, but a handful are permanently displaced, misaligned and unable to fit back in anywhere. If that material is in an environment with radiation, such as part of a nuclear reactor, over time those wayward atoms migrate and build up on the part's surface, leaving behind voids that can make the material brittle. "After irradiation the size can increase up to 10 percent because of the atoms moving to the surface," says Blas Uberuaga, a materials scientist at Los Alamos Kangkanglaoshi National Laboratory. "And that's bad because if you make parts that all fit together, and then they swell, nothing fits together like it's designed to."

With the development of new fusion and fission reactors, researchers are looking for more radiation-resistant construction materials. It's known that materials with a nanocrystalline structure often resist radiation damage better than regular, "bulk" versions of the same compounds. In the former, the material is made up of tiny grains, each one of which is a single crystal. When the grains are agglomerated, their crystal lattices don't line up, so there are boundaries between the grains. Such grain boundaries are undesirable in some applications, such as in electronics, where they impede electron flow, but they are known to make substances stronger as well as more resistant to radiation damage. However, until recently the complete mechanism behind this radiation resiliency was not well understood on the atomic scale.

As Uberuaga, Xian-Ming Bai and their colleagues reported recently, the group performed computer simulations of nanocrystalline copper undergoing radiation damage to figure out what happens inside the metal. The loose atoms, a type of defect known as interstitials, are attracted to the grain boundaries because there's a little more room there than in the rest of the crystal. "Conventionally it has been assumed that once a defect gets to a boundary it just disappears, it gets very quickly to the surface or something like that," says Uberuaga. However, their simulations found something new, as Bai explains: "We found that some of the absorbed interstitials at the grain boundary can come out to annihilate vacancies. So this is a new mechanism behind the self-healing phenomenon."

Rather than just acting as a transport route to the surface, the grain boundaries seem to be a temporary sink for the loose atoms. The vacancies diffuse through the material much more slowly than the interstitials. But in a nanocrystal material, the chances are good that a grain boundary is relatively nearby, which can hold the atom until it finds a vacancy. "If the interstitials just got swept away somewhere else, that healing would not be able to occur. So that local trapping is crucial," says Uberuaga.

In addition, the large number of grain boundaries in nanocrystalline materials gives the vacancies a shorter finish line for their catch-up race. "The vacancies don't have to diffuse all the way to the boundary. There's this extra zone in our simulation of about a nanometer or so where the interstitials can come out and directly zap the vacancies," says Uberuaga.

Bai and Uberuaga suspect that the self-healing mechanism they've found will work with certain other metals and ceramics, and could reopen the consideration of whole classes of structural materials thought not to be sufficiently radiation resistant for use in reactors. Radiation does tend to make the crystal grain size grow over time in some metals such as copper, but using an alloy of two materials that don't mix, and therefore can't create larger crystals, could solve that problem. A bigger roadblock may be that nanocrystalline materials are not yet mass-produced. "There are a number of challenges like that before any kind of reactor material is really designed from the nanoscale," says Uberuaga. "But these results give some insight into what kind of interfaces you might need to get some benefit in nuclear environments, both for fission and fusion reactors.

CONTINUE

43

The main goal of the research discussed in the passage was to investigate why

A) some material exists only in nanocrystalline form and some exists only in bulk form.

B) radiation causes the grains of nanocrystalline material to change size.

C) nanocrystalline material is especially resistant radiation damage.

D) irradiated bulk and nanocrystalline materials become brittle over time.

44

In the first paragraph, the comments from Uberuaga primarily serve to

A) explain an impediment to testing a theory.

B) describe the origin of a newly discovered compound.

C) offer a speculation about the cause of a transformation.

D) elaborate on the implications of a phenomenon.

45

The passage indicates that interstitials move toward grain boundaries because

A) Interstials are attracted to magnetic features of grain boundaries.

B) There is less open space in other areas of crystals than in grain boundaries.

C) The diffusion of vacancies pushes interstitials toward grain boundaries.

D) Electrons in interstitials can only flow properly through grain boundaries.

E) You may wechat or taobao kangkanglaoshi to find the answers and video course of this test.

46

When Bai says that some interstitials can "annihilate vacancies" (lines 50-51),he means that those interstitials can

A) block the grain boundaries in nanocrystalline structures.

B) close the voids caused by the migration of irradiated atoms.

C) destroy the crystal lattices of tiny grains.

D) eliminate the displaced atoms in irradiated copper.

CONTINUE

47

Based on the passage，which statement provides the best explanation for why materials with nanocrystalline structures differ from bulk versions of the same materials in the damage they display following irradiation?

A) Grain boundaries prevent interstitials from diffusing through materials with means that vacancies cannot form in such materials.

B) In bulk materials,exposure to radiation knocks some atoms loose, whereas in materials with nanocrystalline structures,atoms are fixed in place in crystal lattices.

C) When loose atoms build up on the surfaces of bulk materials, those materials change size,whereas atoms can build up on the surfaces of materials with nanocrystalline structures without those materials changing size.

D) Unless interstitials are temporarily held by the grain boundaries that exist in materials with nanocrystalline structures, they move to the surface too quickly to fill the voids caused by radiation exposure.

48

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

A) Lines 9-17 ("If that... Laboratory"）

B) Lines 22-27 ("It's known ... crystal"）

C) Lines 37-44 ("As Uberuaga ...crystal"）

D) Lines 55-60 ("The vacancies ... vacancy"）

49

The author uses the phrase "a shorter finish line for their catch-up race" (line 66) most likely to

A) posit a causal connection between a rare phenomenon and a common phenomenon.

B) provide a technical explanation for the speed with which a phenomenon unfolds.

C) describe a phenomenon unfamiliar to nonspecialists in accessible terms.

D) emphasize the frequency with which a phenomenon occurs.

CONTINUE

50

The main function of the last paragraph is to

A) summarize Bai and Uberuaga's findings and discuss some efforts that are underway to apply those findings to the construction of new reactor parts.

B) explain how Bai and Uberuaga plan on expanding their study and concede that other nanocrystalline materials may behave differently than copper does when exposed to radiation.

C) underscore the significance of Bai and Uberuaga's research and acknowledge obstacles to using nanocrystalline materials in nuclear reactor parts.

D) discuss a technical problem that Bai and Uberuaga faced when testing their hypothesis and show how they adapted their work to overcome that problem.

51

A researcher suggests that brass, which is created by blending copper with zinc, should be used in parts for nuclear reactors since it is harder than copper. Bused on the passage, which question would need to be answered to determine whether the researcher's suggestion is viable?

A) Is nanocrystalline zinc harder than nanocrystalline copper?

B) Does nanocrystalline brass change from a solid to a liquid at a higher temperature than does nanocrystalline copper?

C) Does nanocrystalline zinc behave differently in a fission reactor than it does in a fusion reactor?

D) Do nanocrystalline copper and zinc combine in such a way that the size of the resulting crystal is stable?

52

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

A) Lines 72-77 ("Bai... reactors"）

B) Lines 77-81 ("Radiation ... problem")

C) Lines 81-83 ("A bigger …mass-produced")

D) Lines 86-89 ("But these ... reactors"）

STOP

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