

# 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 from Ayana Mathis, *The Twelve Tribes of Hattie*. ©2012 by Ayana Mathis is set in 1923.

Line Thirty-two hours after Hattie and her mother  
and sisters crept through the Georgia woods to the  
train station, thirty-two hours on hard seats in the  
commotion of the Negro car, Hattie was startled from  
5 a light sleep by the train conductor's bellow, "Broad  
Street Station, Philadelphia!" Hattie clambered from  
the train, her skirt still hemmed with Georgia mud,  
the dream of Philadelphia round as a marble in her  
mouth and the fear of it a needle in her chest. Hattie  
10 and Mama, Pearl and Marion climbed the steps from  
the train platform up into the main hall of the  
station. It was dim despite the midday sun. The  
domed roof arched. Pigeons cooed in the rafters.  
Hattie was only fifteen then, slim as a finger. She stood  
15 with her mother and sisters at the crowd's edge, the  
four of them waiting for a break in the flow of people  
so they too might move toward the double doors  
at the far end of the station. Hattie stepped into the  
multitude. Mama called, "Come back! You'll be lost in  
20 all those people. You'll be lost!" Hattie looked back in  
panic; she thought her mother was right behind her.  
The crowd was too thick for her to turn back, and she  
was borne along on the current of people. She gained  
the double doors and was pushed out onto a long  
25 sidewalk that ran the length of the station.

The main thoroughfare was congested with more  
people than Hattie had ever seen in one place. The  
sun was high. Automobile exhaust hung in the air

alongside the tar smell of freshly laid asphalt and the  
30 sickening odor of garbage rotting. Wheels rumbled  
on the paving stones, engines revved, paperboys  
called the headlines. Across the street a man in  
dirty clothes stood on the corner wailing a song, his  
hands at his sides, palms upturned. Hattie resisted  
35 the urge to cover her ears to block the rushing city  
sounds. She smelled the absence of trees before she  
saw it. Things were bigger in Philadelphia—that was  
true—and there was more of everything, too much  
of everything. But Hattie did not see a promised  
40 land in this tumult. It was, she thought, only Atlanta  
on a larger scale. She could manage it. But even as  
she declared herself adequate to the city, her knees  
knocked under her skirt and sweat rolled down her  
back. A hundred people had passed her in the few  
45 moments she'd been standing outside, but none of  
them were her mother and sisters. Hattie's eyes hurt  
with the effort of scanning the faces of the passersby.

A cart at the end of the sidewalk caught her eye.  
Hattie had never seen a flower vendor's cart. A white  
50 man sat on a stool with his shirtsleeves rolled and  
his hat tipped forward against the sun. Hattie set her  
satchel on the sidewalk and wiped her sweaty palms  
on her skirt. A Negro woman approached the cart.  
She indicated a bunch of flowers. The white man  
55 stood—he did not hesitate, his body didn't contort  
into a posture of menace—and took the flowers from  
a bucket. Before wrapping them in paper, he shook  
the water gently from the stems. The Negro woman  
handed him the money. Had their hands brushed?

60 As the woman took her change and moved to

put it in her purse, she upset three of the flower arrangements. Vases and blossoms tumbled from the cart and crashed on the pavement. Hattie stiffened, waiting for the inevitable explosion. She waited for the  
 65 other Negroes to step back and away from the object of the violence that was surely coming. She waited for the moment in which she would have to shield her eyes from the woman and whatever horror would ensue. The vendor stooped to pick up the mess. The  
 70 Negro woman gestured apologetically and reached into her purse again, presumably to pay for what she'd damaged. In a couple of minutes it was all settled, and the woman walked on down the street with her nose in the paper cone of flowers, as if nothing had  
 75 happened.

Hattie looked more closely at the crowd on the sidewalk. The Negroes did not step into the gutters to let the whites pass and they did not stare doggedly at their own feet. Four Negro girls walked by, teenagers  
 80 like Hattie, chatting to one another. Just girls in conversation, giggling and easy, the way only white girls walked and talked in the city streets of Georgia. Hattie leaned forward to watch their progress down the block. At last, her mother and sisters exited the  
 85 station and came to stand next to her. "Mama," Hattie said. "I'll never go back. Never."

1

Which choice best summarizes the passage?

- A) A character decides to lead more active life after a stimulating experience.
- B) A character makes a resolution after observing interactions in her new environment.
- C) A character realizes how unrewarding her past life has been after being thrust into new circumstances.
- D) A character recalls a significant memory and comes to an ultimate understanding of it.

2

The phrases "round as a marble in her mouth" and "a needle in her chest" in lines 9 have the primary effect of

- A) dramatizing the fleeting nature of an intense emotion.
- B) underscoring the discrepancy between reality and subjective perception,
- C) demonstrating the reconciliation of seemingly contradictory states of mind.
- D) conveying the idea that anticipation encompasses both hopefulness and dread.

3

According to the passage, being separated from her family in the train station affects Hattie by

- A) relieving her worries over social obligations.
- B) intensifying her customary shyness.
- C) causing her temporary distress.
- D) confirming her preference for solitude.

4

As used in line 23, "gained" most nearly means

- A) reached.
- B) increased.
- C) attracted.
- D) defeated.

5

Which choice best describes Hattie's attitude upon first arriving in Philadelphia toward the prospect of living these?

- A) She believes that Philadelphia has certain charms, but she worries that those charms are not genuine.
- B) She knows that her identity will be altered by her new home, but she hopes that this change will be for the better.
- C) She recognizes that metropolitan areas offer many advantages, but she would still prefer to return to the country.
- D) She feels that she is capable of residing in such a large city, but the possibility of doing so unnerves her.

6

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

- A) Lines 34-37 ("Hattie . . . saw it")
- B) Lines 37-39 ("Things . . . much of everything")
- C) Lines 39-41 ("But Hattie . . . scale")
- D) Lines 41-44 ("She could . . . back")

7

Based on the passage, how does Hattie believe many black people would react to a confrontation like the one she anticipates between the flower vendor and his customer?

- A) They would condemn the confrontation openly but take care not to intervene in it.
- B) They would distance themselves as much as possible from the confrontation.
- C) They would defuse the confrontation through calming words and actions.
- D) They would argue about the significance of the confrontation among themselves.

8

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

- A) lines 63-64 ("Hattie . . . explosion")
- B) Lines 64-69 ("She wailed for the other . . . ensue")
- C) lines 69-72 ("The Negro woman gestured . . . damaged")
- D) lines 77-82 ("The Negroes . . . Georgia")

9

The main purpose of the passage's portrayal of Hattie's behavior in lines 76-77 is to

- A) illustrate a change in her overall demeanor.
- B) emphasize her desire to locate her mother and sister.
- C) indicate her waning interest in issues concerning race.
- D) signal a shift that is occurring in her understanding of the city.

10

The passage makes which comparison regarding the four girls whom Hattie sees conversing with one another?

- A) They appear as carefree in public as the white girls of Georgia did.
- B) They dismiss Hattie as thoughtlessly as the white girls of Georgia did.
- C) They discuss the same subjects that the white girls of Georgia discussed.
- D) They lead home lives similar to those of the white girls of Georgia.

**Questions 11-21 are based on the following passage**

Passage 1 is adapted from Thomas Babington Macaulay. "Government of India: A Speech Delivered in the House of Commons." Passage 2 is adapted from Bal Gangadhar Tilak. "Tenets of the New Party", Macaulay, a British historian and politician, delivered his speech in 1833. Tilak an Indian nationalist and social reformer, delivered his speech in 1907. Much of what is now India was under British control from the mid-eighteenth century until 1947.

**Passage 1**

It is true that the duties of government and legislation were long wholly neglected or carelessly performed [by the British in India]. It is true that  
 Line when the conquerors at length began to apply  
 5 themselves in earnest to the discharge of their high functions, they committed the errors natural to rulers who were but imperfectly acquainted with the language and manners of their subjects. It is true that some plans, which were dictated by the purest and  
 10 most benevolent feelings, have not been attended by the desired success. It is true that India suffers to this day from a heavy burden of taxation and from a defective system of law....

All this is true. Yet in the history and in the  
 15 present state of our Indian Empire I see ample reason for exultation and for a good hope.

I see that we have established order where we found confusion. I see that the petty dynasties... which, a century ago, kept all India in constant  
 20 agitation, have been quelled by one overwhelming power. I see that the predatory tribes, which, in the middle of the last century, passed annually over the harvests of India with the destructive rapidity of a hurricane, have...been...extirpated by the English  
 25 sword, or compelled to exchange the pursuits of rapine for those of industry.

I look back for many years; and I see scarcely a trace of the vices which blemished the splendid fame of the first conquerors of Bengal. I see peace  
 30 studiously preserved. I see faith inviolably maintained towards feeble and dependent states. I see confidence gradually infused into the minds of suspicious neighbors. I see the horrors of war mitigated by the chivalrous and Christian spirit of Europe. I  
 35 see examples of moderation and clemency, such as I should seek in vain in the annals of any other victorious and dominant nation...

I see a government anxiously bent on the public good. Even in its errors I recognize a paternal feeling  
 40 towards the great people committed to its charge... I see the public mind of India... expanding itself to just and noble views of the ends of government and of the social duties of man.

**Passage 2**

[T]his alien government has ruined the country.  
 45 In the beginning, all of us were taken by surprise. We were almost dazed. We thought that everything that the rulers did was for our good and that this English government has descended from the clouds to save us from the invasions of Tamerlane and  
 50 Chingis Khan, and, as they say, not only from foreign invasions but from internecine warfare, or the internal or external invasions, as they call it. We felt happy for a lime, but it soon came to light... that we were prevented from going at each other's throats, so  
 55 that a foreigner might go at the throat of us all. Pax Britannica ["British Peace"] has been established in this country in order that a foreign government may exploit the country.... We believed in the benevolent intentions of the Government, but in politics there  
 60 is no benevolence. Benevolence is used to sugar-coat the declarations of self-interest, and we were in those days deceived by the apparent benevolent intentions under which rampant self-interest was concealed . . .

We are all in subordinate service. The whole  
 65 government is carried on with our assistance and they try to keep us in ignorance of our power of cooperation between ourselves by which that which is in our own hands at presents can be claimed by us and administered by us. The point is to have the  
 70 entire control in our hands. I want to have the key of my house, and not merely one stranger turned out of it. Self-government is our goal; we want a control over our administrative machinery. We don't want to become clerks and remain. At present, we are clerks  
 75 and willing instruments of our own oppression in the hands of an alien government, and that government is ruling over us not by its innate strength but by keeping us in ignorance and blindness to the perception of this fact... Every Englishman knows  
 80 that they are a mere handful in this country and it is the business of every one of them to befool you in believing that you are weak and they are strong. This is politics. We have been deceived by such policy



so long. What the New Party wants you to do is to  
85 realize the fact that your future rests entirely in your  
own hands. If you mean to be free, you can be free;  
If you do not mean to be free, you will fall and be for  
ever fallen.

11

Over the course of Passage 1, the main focus shifts from

- A) asserting the appeal of certain claims to demonstrating their underlying falseness.
- B) describing the toughness of certain measures to expressing regret for their effects.
- C) evaluating certain criticisms to proposing solutions to address them.
- D) identifying certain flaws to minimizing them within the context of perceived accomplishments.

12

Which choice from Passage 1 best supports the conclusion that Macaulay believed that British control had unified India?

- A) Lines 1-3 (“It is . . . India”)
- B) Lines 14-16 (“Yet in . . . hope”)
- C) Lines 17-21 (“I see that the . . . power”)
- D) Lines 30-31 (“I see faith . . . states”)

13

As used in line 10, “attended” most nearly means

- A) frequented.
- B) maintained.
- C) replaced.
- D) accompanied.

14

As used in line 40, “charge” most nearly means

- A) care.
- B) invasion.
- C) accusation.
- D) expense.

15

What is the main purpose of passage 2?

- A) To trace the shift in many Indians’ reactions to the arrival of the British in their country
- B) To weigh the drawbacks if British colonialism against its benefits
- C) To provide historical context to explain the importance of Britain’s occupation of India
- D) To urge Indians to recognize the negative realities of British rule

16

In Passage 2, Tilak indicates that the initial reaction of Indians to British rule could best be characterized as

- A) concern about the loss of political independence.
- B) relief at the prospect of protection from strife.
- C) hopefulness about the possibility of economic stability.
- D) wariness about the potential cultural implications.

17

In the last paragraph of Passage 2, Tilak claims that the British retain control in India in part by

- A) adopting approaches similar to those of other colonizing nations.
- B) violating long-standing international principles of human rights.
- C) relying on the political and economic support of other countries.
- D) fostering a widespread misperception among Indians.

18

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

- A) objective.
- B) movement.
- C) livelihood.
- D) right.

19

Tilak would most likely respond to Macaulay’s claim that the British are maintaining stability in India by asserting that stability

- A) cannot be achieved when historical injustices are ignored.
- B) tends to be more desirable in the abstract than in reality.
- C) comes at great cost when it is brought about by an occupying power.
- D) occurs naturally without intervention by foreign nations.

20

How would Tilak most likely respond to Macaulay’s characterization in Passage 1 of “some plans” (line 9)?

- A) He would reject it, arguing that the plans were more self-serving than they were noble and generous.
- B) He would be puzzled by it, questioning the pessimistic representation of the plans’ outcomes.
- C) He would be amused by it, reflecting that most of the plans were far beyond Britain’s capacity to execute.
- D) He would accept it, granting that there is nothing to be gained by criticizing the plans of those in power.

21

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

- A) Line 46 (“We were . . . dazed”)
- B) Lines 52-55 (“We felt . . . us all”)
- C) Lines 60-63 (“Benevolence . . . concealed”)
- D) Lines 74-79 (“At present . . . fact”)

**Questions 22-31 are based on the following passage and supplementary material.**

This passage is adapted from Claire N. Spottiswoode, “How cooperation Defeats Cheats.” ©2013 by American Association for the Advancement of Science.

In the spring of 1879, naturalist Hermann Lau removed two white-winged choughs, *Corcorax melanorhamphos*, from their nest in Queensland, Australia. He watched as additional choughs continued to attend the nest, proving that a cooperative group shared parental care. Since then, cooperatively breeding birds have had a starring role in efforts to explain the evolution of complex animal societies. We now know that “helpers-at-the-nest” who forgo reproduction are often relatives of the breeding pair. Genetic payoff is, thus, one of several advantages that helpers can gain from their superficially altruistic behavior. In recent research, Feeney *et al.* show that collective defense against brood parasites can enhance such benefits of cooperation.

Feeney *et al.*’s study is built on the premise that brood parasitism—reproductive cheating by species such as cuckoos and cowbirds, which exploit other birds to raise their young [by laying eggs in other species’ nests]—is a severe selection pressure on their hosts’ breeding strategies. Parasitized parents typically not only lose their current offspring but also waste a whole breeding season raising a demanding impostor. The best way to avoid parasitism is to repel adult parasites from the nest. Feeney *et al.* show that sociality can be pivotal to this process.

The authors begin by unfolding a new map. Using data compiled by BirdLife International, they show that the global distribution of cooperatively breeding birds overlaps strikingly with that of brood parasites. This overlap need not reflect a causal relationship: The same unpredictable environments that favor cooperation could also favor alternative breeding strategies such as parasitism. However, the authors go on to show that even within geographical regions rich in both parasites and cooperators—Australia and southern Africa—cooperative breeders are much more likely than noncooperative species to be targeted by brood parasites.

To determine the reasons for this correlation, Feeney *et al.* studied cooperative breeding in superb fairy-wrens (*Malurus cyaneus*) in Australia.

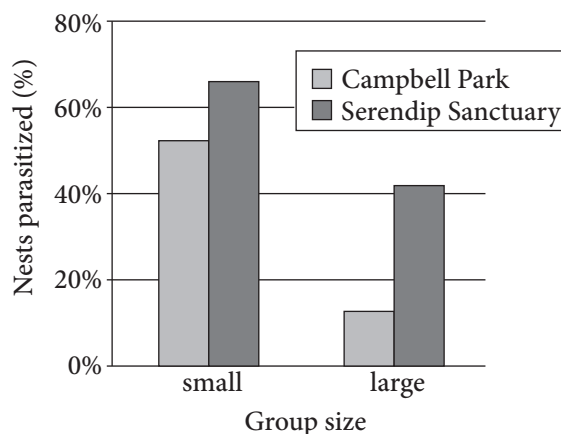
Horsfield’s bronze-cuckoos (*Chalcites basalis*) should benefit from targeting larger groups of fairy-wrens because more helpers mean faster chick growth. Yet, data from a 6-year field study show that in practice, cuckoos rarely experience this advantage, because larger groups of fairy wrens much more effectively detect and repel egg-laying intrusions by cuckoo females, mobilizing group defenses with a cuckoo-specific alarm call.

Thus, cooperation and parasitism could reciprocally influence one another: Cooperators might be more attractive targets because they make better foster parents, but once exploited by the parasites, they are also better able to fight back. Feeney *et al.* find that superior anti-cuckoo defenses in larger groups account for 0.2 more young fledged per season on average than smaller groups—a substantial boost given the fairy-wrens’ low annual fecundity.

These results show convincingly that defense against brood parasites augments the benefits of helping, promoting the persistence of cooperation. But as the authors note, they cannot reveal what caused cooperation to evolve initially. Brood parasitism alone cannot resolve the question of why some birds breed cooperatively. For example, cooperative kingfishers and bee-eaters are heavily parasitized in Africa but not in Australasia, showing that other advantages of helping behavior are sufficient for cooperation to persist. But we should take parasitism seriously as an important force in a cooperative life.

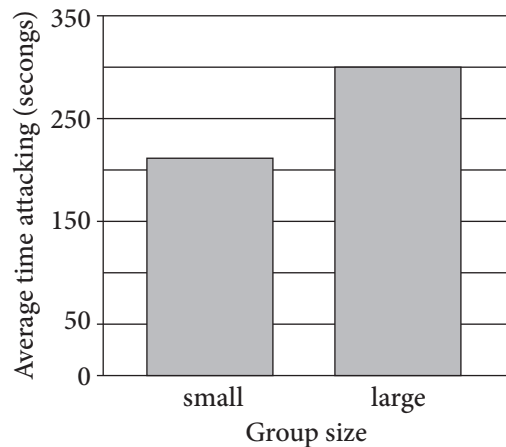
**Figure 1**

Effect of Fairy-Wren Group Size on Nest Parasitism at Two Field Sites



**Figure 2**

Time Fairy-Wrens Spent Attacking  
a Cuckoo Model, by Group Size



Figures adapted from W. E. Feeney et al., "Brood Parasitism and the Evolution of Cooperative Breeding in Birds." ©2013 by American Association for the Advancement of Science.

22

The main purpose of the passage is to

- A) consider a study that examines the relationship of cooperation and parasitism among bird species.
- B) determine from a study how cooperative breeding initially evolved within certain species of birds.
- C) examine why the survival rates of cooperatively breeding birds are greater than those of birds that do not breed cooperatively.
- D) highlight distinctions in the breeding patterns of cooperative and parasitic birds.

23

It can reasonably be inferred from the passage that the interpretation by Feeney's group of existing data was scientifically significant because it

- A) identified previously unknown areas in which bird species engage in cooperative breeding.
- B) validated accepted theories about the social complexity of bird populations that breed cooperatively.
- C) helped to pinpoint the environments in which brood parasites thrive.
- D) established a consistent association between cooperative breeding behavior and brood parasitism.

24

As used in line 32, "reflect" most nearly means

- A) consider.
- B) indicate.
- C) speculate.
- D) reproduce.

25

As used twice in line 33, "favor" most nearly means

- A) facilitate.
- B) resemble.
- C) indulge.
- D) commend.

26

Which choice provides the best evidence that the reproductive advantage that fairy-wren populations derive from cooperative breeding is related to the size of those populations?

- A) Lines 57-61 ("Feeney . . . fecundity")
- B) Lines 64-66 ("But as . . . initially")
- C) Lines 66-68 ("Brood . . . cooperatively")
- D) Lines 68-72 ("For example . . . persist")

27

Which choice best describes reproduction in fairy-wrens, as discussed in the passage?

- A) Fairy-wrens choose lifelong males.
- B) Fairy-wrens tend to produce few offspring.
- C) Fairy-wrens lay a single clutch of eggs yearly.
- D) Fairy-wrens are capable of breeding year-round.

28

The last paragraph primarily serves to

- A) concede the difficulty of assessing the validity of the conclusions reached by Feeney et al.
- B) reevaluate a basic premise of the study conducted by Feeney et al.
- C) caution against an unjustified inference from the findings of Feeney et al.
- D) note similarities between the data obtained by Feeney et al. and those of other studies.

29

The data in figure 1 best support which conclusion about parasitization of the fairy-wren nests observed in the study?

- A) At Serendip Sanctuary, half as many nests were parasitized in the large fairy-wren groups as were parasitized in the small fairy-wren groups.
- B) At both Campbell Park and Serendip Sanctuary, at least 70 percent of the nests were parasitized in the small fairy-wren group.
- C) At each site, a greater percentage of nests were parasitized in the small fairy-wren groups than were parasitized in the large fairy-wren groups.
- D) At Serendip Sanctuary, all fairy-wren nests exhibited at least some degree of brood parasitization.

30

Which comparison of the fairy-wren populations of Serendip Sanctuary and Campbell Park is best supported by the information in figure 1?

- A) Serendip Sanctuary exceeds Campbell Park in terms of the total number of nests occupied by fairy-wrens at any given time.
- B) The large groups account for a greater share of the overall fairy-wren population at Serendip Sanctuary than at Campbell Park.
- C) The small groups of Serendip Sanctuary consist of a higher number of fairy-wrens, on average, than the small groups of Campbell Park do.
- D) In the both group sizes, the fairy-wren nests at Serendip Sanctuary are parasitized at a higher rate than are those at Campbell Park.

31

According to the data in figure 2, the average length of time spent attacking a cuckoo model fell within what range for small and large fairy-wren groups alike?

- A) From 0 to 100 seconds
- B) From 50 to 200 seconds
- C) From 100 to 250 seconds
- D) From 200 to 300 seconds



**Questions 32-41 are based on the following passage and supplementary material.**

“Future. Imperfect and Tense.” ©2014 by The Economist Newspaper Limited.

If you want something done, the saying goes, give it to a busy person. It is an odd way to guarantee hitting deadlines. But a recent paper suggests it may, in fact, be true—as long as the busy person conceptualises the deadline in the right way.

Yanping Tu of the University of Chicago and Dilip Soman of the University of Toronto examined how individuals go about both thinking about and completing tasks. Previous studies have shown that such activity progresses through four distinct phases: pre-decision, post-decision (but pre-action), action and review. It is thought that what motivates the shift from the decision-making stages to the doing-something stage is a change in mindset.

Human beings are a deliberative sort, weighing the pros and cons of future actions and remaining open to other ideas and influences. However, once a decision is taken, the mind becomes more “implemental” and focuses on the task at hand. “The mindset towards ‘where can I get a sandwich,’” explains Ms. Tu, “is more implemental than the mindset towards ‘should I get a sandwich or not?’”

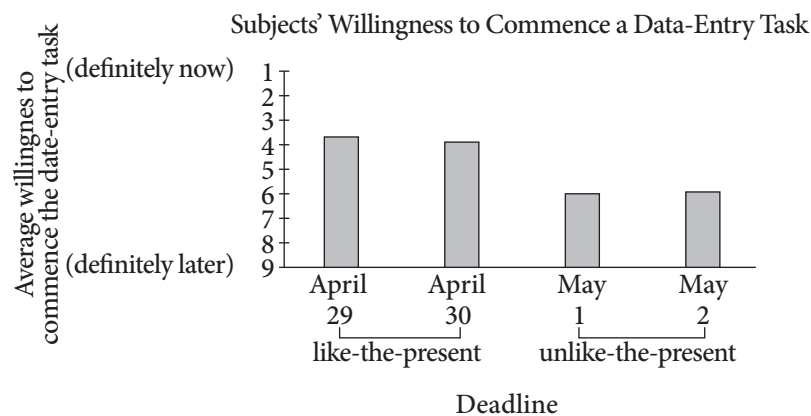
Ms. Tu and Dr. Soman advise in their paper that “the key step in getting things done is to get started.” But what drives that? They believe the key that unlocks the implemental mode lies in how people categorise time. They suggest that tasks are more likely to be viewed with an implemental mindset if an imposed deadline is cognitively linked to “now”—a so-called like-the-present scenario. That might be a future date within the same month or calendar year, or pegged to an event with a familiar spot in the mind’s timeline (being given a task at Christmas, say, with a deadline of Easter). Conversely, they suggest, a deadline placed outside such mental constructs (being “unlike-the-present”) exists merely as a circle on a calendar, and as such is more likely to be considered deliberatively and then ignored until the last minute.

To flesh out this idea, the pair carried out five sets of tests, with volunteers ranging from farmers in India to undergraduate students in Toronto. In one test, the farmers were offered a financial incentive to open a bank account and make a deposit within six

months. The researchers predicted those approached in June would consider a deadline before December 31st as like-the-present. Those approached in July, by contrast, received a deadline into the next year, and were expected to think of their deadline as unlike-the-present. The distinction worked. Those with a deadline in the same year were nearly four times more likely to open the account immediately as those for whom the deadline lay in the following year. Arbitrary though calendars may be in dividing up time’s continuous flow, they influence the way humans think about time.

The effect can manifest itself in even subtler ways. In another set of experiments, undergraduate students were given a calendar on a Wednesday and were asked to suggest an appropriate day to carry out certain tasks before the following Sunday. The trick was that some were given a calendar with all of the weekdays coloured purple, with weekends in beige (making a visual distinction between a Wednesday and the following Sunday). Others were given a calendar in which every other week, Monday to Sunday, was a solid colour (meaning that a Wednesday and the following Sunday were thus in the same week, and in the same colour). Even this minor visual cue affected how like- or unlike-the-present the respondents tended to view task priorities.

These and other bits of framing and trickery in the research support the same thesis: that making people link a future event to today triggers an implemental response, regardless of how far in the future the deadline actually lies.



Adapted from Yanping Tu and Dilip Soman, "The Categorization of Time and its impact on Task Initiation."  
©2014 by Journal of Consumer Research, Inc.

In this experiment, conducted in April, subjects were asked to imagine that today was April 24th, 25th, 26th, or 27th and to rate, on a scale of 1 to 9, their willingness to begin a four-hour data-entry task that was due five days later, either at the end of April (the 29th or 30th) or at the beginning of May (the 1st or 2nd).

32

The main purpose of the passage is to

- A) call for researchers to investigate the soundness of traditional attitudes toward deadlines.
- B) offer an overview of studies on the effectiveness of deadlines and suggest lines of future research.
- C) compare anecdotal evidence regarding the benefits of deadlines with empirical data regarding those benefits.
- D) discuss research supporting a particular view of how people understand the concept of deadlines.

33

The passage implies that just before people enter the action-taking phase, their thinking is characterized by a concern for the

- A) practical planning involved in completing a task.
- B) benefits awarded to those who undertake a task.
- C) speed with which a task can be completed.
- D) goals of the person who set a task's deadline.

34

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

- A) Lines 15-17 ("Human . . . influences")
- B) Lines 19-22 ("The mindset . . . not")
- C) Lines 25-27 ("They believe . . . time")
- D) Lines 27-30 ("suggest . . . scenario")

35

As used in line 25, "drives" most nearly means

- A) prompts.
- B) constraint.
- C) accelerates.
- D) persuades.

36

Based on the passage, tasks may be understood as like-the-present even though they

- A) tend to require the same time-management skills as unlike-the-present tasks do.
- B) present numerous obstacles to moving into the action-taking phase.
- C) involve deadlines that occur in the distant future rather than in the near future.
- D) are more likely to be left incomplete than unlike-the-present tasks are.

37

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

- A) Lines 23-24 (“Ms. Tu . . . started”)
- B) Lines 30-34 (“That might . . . Easter”)
- C) Lines 34-38 (“Conversely . . . minute”)
- D) Lines 46-49 (“Those . . . unlike-the-present”)

38

By commenting that calendars are “arbitrary” (line 53), the author suggests that they

- A) are somewhat artificial in nature.
- B) are the products of unrestricted power.
- C) vary widely from one culture to the next.
- D) should be considered ultimately dispensable.

39

The primary purpose of the last paragraph is to

- A) propose the need for further study of a claim.
- B) emphasize the strength of a research conclusion.
- C) summarize the methods used in an experiment.
- D) recommend a solution to a research challenge.

40

Based on the graph, which choice best approximates the average rating of willingness given by subjects whose deadline for the data-entry task was May 2?

- A) 2
- B) 4
- C) 6
- D) 8

41

Which choice best states an important difference between the results of the test described in lines 42-57 of the passage and the data presented in the graph?

- A) The study in the passage concluded that subjects are unwilling to start tasks considered unlike-the-present, whereas the graph shows that such tasks are eventually completed.
- B) The study in the passage analyzed what subjects actually did, whereas the graph reports on what subjects said that they would do.
- C) The study in the passage was conducted over a relatively short period of time, whereas the graph reflects data collected over several months.
- D) The study in the passage found only a small difference between like-the-present and unlike-the-present scenarios, whereas the difference shown by the data in the graph is more substantial.

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

This passage is adapted from Eric Hand, “Ancient Magma Plumbing Found Buried below Moon’s Largest Dark Spot.”  
©2014 by American Association for the Advancement of Science.

Scientists have found a nearly square peg underneath a round hole—on the Moon. Several kilometers below Oceanus Procellarum, the largest dark spot on the Moon’s near side, scientists have  
Line 5 discovered a giant rectangle thought to be the remnants of a geological plumbing system that spilled lava across the Moon about 3.5 billion years ago. The features are similar to rift valleys on Earth—regions where the crust is cooling, contracting, and ripping  
10 apart. Their existence shows that the Moon, early in its history, experienced tectonic and volcanic activity normally associated with much bigger planets.

“We’re realizing that the early Moon was a much more dynamic place than we thought,” says Jeffrey  
15 Andrews-Hanna, a planetary scientist at the Colorado School of Mines in Golden and lead author of a new study of the Procellarum’s geology. The discovery also casts doubt on the decades-old theory that the circular Procellarum region is a basin, or giant crater,  
20 created when a large asteroid slammed into the Moon. “We don’t expect a basin rim to have corners,” Andrews-Hanna says.

The work is based on data gathered by GRAIL (Gravity Recovery and Interior Laboratory), a pair  
25 of NASA spacecraft that orbited the Moon in 2012. Sensitive to tiny variations in the gravitational tug of the Moon, GRAIL mapped density variations below the surface (because regions of higher density produces slightly higher gravitational forces). Below  
30 known impact basins, GRAIL found the expected ringlike patterns, but underneath the Procellarum region, the mysterious rectangle emerged. “It was a striking pattern that demanded an explanation,” Andrews-Hanna says.

35 Scientists already know that the Procellarum region is rich in radioactive elements that billions of years ago would have produced excess heat. The study team theorizes that as this region cooled, the rock would have cracked in geometrical patterns,  
40 like honeycomb patterns seen on Earth in basalt formations, but on a much larger scale. The researchers propose that these cracks eventually

grew into rift valleys, where magma from the Moon’s mantle welled up and pushed apart blocks of  
45 crust. Lava spilled out and paved over the Oceanus Procellarum, creating the dark spot that is seen today. The extra weight of this dense material would have caused the whole region to sink slightly and form the topographic low that has made the Procellarum seem  
50 like a basin.

With the discovery, the Moon joins Earth, Mars, and Venus as Solar system bodies with mapped examples of rifting. There are also similar features near the south pole of Enceladus, the moon of Saturn  
55 that is spewing water into space from cracks in an ice shell.

Andrews-Hanna and colleagues have made a good case, says Herbert Frey, a planetary scientist at NASA’s Goddard Space Flight Center in Greenbelt, Maryland,  
60 even though the newly described features are surprising. The Moon is not big enough to have the same strong convective cooling process that Earth has in its interior, he explains, and ordinarily convection is one of the main mechanisms thought to lead to  
65 large-scale rifting. So just what caused the rifting remains unclear. “It just means the Moon continues to surprise us,” he says. Frey adds that a remaining mystery is why the rectangular features were found only beneath Oceanus Procellarum. Even if the rifting  
70 is explained by the excess radioactive elements, there is still no definitive explanation for why only the near side of the Moon ended up enriched.

42

The primary purpose of the passage is to discuss

- A) several unanswered questions about the Moon that motivated the launching of GRAIL.
- B) a study that propose a new understanding of the origin of Oceanus Procellarum.
- C) how radioactivity influenced the formation of the Moon’s geological features.
- D) new findings concerning rifting on multiple planets in the solar system.

43

The author uses the phrase “geological plumbing system” (line 6) primarily to

- A) explain the meaning of a technical term.
- B) indicate the source of a problem.
- C) confirm the unexpectedness of a result.
- D) provide a description of an internal structure.

44

In the second paragraph (lines 14-23), Andrews-Hanna’s comment about a basin rim primarily serves to

- A) point out how an observation conflicts with existing understanding.
- B) refine the definition of a type of geological feature.
- C) identify an analogy between the Moon’s geology and that of Earth.
- D) indicate evidence of erroneous measurement results.

45

Which choice best describes how GRAIL related to the study conducted by Andrews-Hanna, as presented in the passage?

- A) The central idea of the study was a hypothesis that could be tested by using GRAIL to gather data.
- B) The techniques developed for GRAIL were later employed to gather data for the study.
- C) The study attempted to account for an anomaly discovered as a result of the GRAIL mission.
- D) The data gathered by GRAIL gave rise to competing interpretations that the study aimed to resolve.

46

According to the passage, GRAIL was able to provide information about

- A) gradations of shading in the large dark spot on the Moon’s near side.
- B) fluctuations in the Moon’s volcanic activity.
- C) variations in the density of materials beneath the Moon’s surface.
- D) forces influencing the gravitational tug of the Moon.

47

Based on the passage, when evaluating the data gathered by GRAIL, the team led by Andrews-Hanna hypothesized that the Moon would

- A) feature geometric patterns on its surface that mirrored subterranean geometric patterns.
- B) react to changes in temperature near the surface similarly to how Earth would react.
- C) experience higher temperatures in regions where asteroids collided with its surface.
- D) give scientists insight into the behavior of the other large moons in the solar system

48

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

- A) Lines 32-34 (“It was . . . says”)
- B) Lines 35-37 (“Scientists . . . heat”)
- C) Lines 37-41 (“The study . . . scale”)
- D) Lines 45-46 (“Lava . . . today”)



49

In the passage, Andrews-Hanna and colleagues propose that which process occurred to create the dark spot that is Oceanus Procellarum?

- A) Rigidity of material near the Moon's surface caused the surface to collapse and form a topographic low.
- B) Pressure generated by excess heat from radioactivity caused a change in the composition of the Moon's crust.
- C) A gradual cooling caused layers beneath the Moon's crust to contract.
- D) The cracked surface of the region was paved over by material rising up to the surface of the Moon.

50

Based on the passage, it can be inferred that scientists originally identified Oceanus Procellarum as an impact basin as a result of

- A) evidence of tectonic and volcanic activity collected by GRAIL
- B) a misinterpretation of the physical characteristics of the region.
- C) unexplained changes observed taking place on the surface of the Moon.
- D) evidence that similar patterns in the region shared a common origin.

51

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

- A) Lines 17-21 ("The discovery . . . Moon")
- B) Lines 23-25 ("The work . . . in 2012")
- C) Lines 29-32 ("Below . . . emerged")
- D) Lines 41-45 ("The researchers . . . crust")

52

In the fifth paragraph (lines 51-56), the description of other known examples of rifting serves primarily to

- A) confirm that Frey is correct in his theory that the Earth and the Moon have identical tectonic mechanisms.
- B) reveal that the Procellarum region is unique in the type of rifting it continues to experience.
- C) suggest that the new data collected by GRAIL led to a revised understanding of other celestial bodies.
- D) provide additional information that places the conclusions reached by Andrews-Hanna's team in a broader context

**STOP**

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

**No Test Material On This Page**

# Writing and Language Test

35 MINUTES, 44 QUESTIONS

Turn to Section 2 of your answer sheet to answer the questions in this section.

## DIRECTIONS

Each passage below is accompanied by a number of questions. For some questions, you will consider how the passage might be revised to improve the expression of ideas. For other questions, you will consider how the passage might be edited to correct errors in sentence structure, usage, or punctuation. A passage or a question may be accompanied by one or more graphics (such as a table or graph) that you will consider as you make revising and editing decisions.

You may also taobao kangkanglaoshi to get video courses and more test materials.

After reading each passage, choose the answer to each question that most effectively improves the quality of writing in the passage or that makes the passage conform to the conventions of standard written English. Many questions include a “NO CHANGE” option. Choose that option if you think the best choice is to leave the relevant portion of the passage as it is.

Questions 1-11 are based on the following passage.

### Vik Muniz’s Extraordinary Ordinary Art

While on a trip to the Caribbean island of St. Kitts in 1 1995, Brazilian-born artist. Vik Muniz, befriended a group of local children. In time, the children invited Muniz to meet their parents, who worked as 2 a laborer in the island’s sugarcane fields. When Muniz returned to his art studio in Brooklyn, he was inspired to pay tribute to these hardworking families. Looking at photos he had taken of the children, Muniz decided to re-create the portraits using sugar, the very material that the children’s parents worked to harvest.

1

- A) NO CHANGE
- B) 1995, Brazilian-born, artist Vik Muniz
- C) 1995 Brazilian-born artist, Vik Muniz,
- D) 1995, Brazilian-born artist Vik Muniz

2

- A) NO CHANGE
- B) laborers
- C) one of the laborers
- D) the laborer

3 To keep himself from being bored, Muniz applied grains of sugar onto a sheet of black paper using small sifters. For smaller and more intricate features, such as the eyes and lips, he moved individual grains of sugar around on the paper until he got the image he wanted. Each portrait took about two weeks to complete. When he was finished, he photographed the portraits, 4 poured the sugar from each piece of black paper into 5 his own small jar, and then pasted the photo of the corresponding sugar portrait onto the jar. Through his *Sugar Children* portraits, as the works later came to be known, Muniz wanted to draw people's attention to an often overlooked truth: behind the many consumer goods that we take for granted are untold numbers of people laboring to produce them. The Museum of Modern Art in New 6 York, included the photos in its 1997, *New Photography* show, and Muniz's career as a photographer was launched.

3

Which choice most effectively sets up the paragraph that follows?

- A) NO CHANGE
- B) Hoping to please the children,
- C) As a surprise for the parents,
- D) To create each new artwork,

4

- A) NO CHANGE
- B) pours
- C) to pour
- D) pouring

5

- A) NO CHANGE
- B) their
- C) its
- D) one's

6

- A) NO CHANGE
- B) York, included the photos in its 1997
- C) York included the photos, in its 1997,
- D) York included the photos in its 1997

7 He has made detailed landscapes by layering yards of thread onto a canvas. 8 In contrast, he has re-created da Vinci's *Last Supper* using chocolate syrup and Caravaggio's *Medusa* out of spaghetti and marinara sauce. He has even included laborers from the world's largest garbage dump as central figures in room-sized recreations of famous 9 well-known paintings, with

7

At this point, the writer is considering adding the following sentence.

Since then, Muniz has become well known as an artist for both creating original images and re-creating celebrated works of art using the most ordinary of materials.

Should the writer make this addition here?

- A) Yes, because it acknowledges a common objection to the passage's central claim.
- B) Yes, because it introduces the main topic of the paragraph.
- C) No, because it blurs the focus of the paragraph by providing irrelevant information.
- D) No, because it undermines the passage's claim about Muniz's art.

8

- A) NO CHANGE
- B) Therefore,
- C) For that reason,
- D) DELETE the underlined portion, adjusting the capitalization as needed.

9

- A) NO CHANGE
- B) and well-known paintings,
- C) paintings,
- D) paintings that are well known,



backdrops and props made of trash from the dump the laborers work in. **10** He painstakingly constructed these creations from ephemeral materials. Then Muniz gives them permanence by photographing them.

**11** From the *Sugar Children* portraits to these more recent displays, Muniz has endeavored to surprise and challenge his viewers, causing them to take a second look at the images and at the world around them. Through his creative use of everyday materials, his focus on nontraditional subjects, and his unorthodox mixing of media, Muniz has established himself as a distinctive artist worthy of attention.

10

Which choice most effectively combines the sentences at the underlined portion?

- A) After painstakingly constructing these creations from ephemeral materials, Muniz
- B) Painstakingly constructing these creations from ephemeral materials first, and then Muniz
- C) Muniz painstakingly constructs these creations from ephemeral materials and then after he does that, he
- D) First, painstakingly constructing these creations from ephemeral materials, Much then

11

- A) NO CHANGE V
- B) Despite his interest in the children of St. Kitts.
- C) Because he has grown tired of working with ephemeral materials,
- D) Even though he has had his work shown at prestigious museums,

Questions 12-22 are based on the following passage and supplementary material.

### Culture Brings Economic Benefits

When communities consider how much funding to provide for artistic and cultural institutions, they often regard such expenditures as investments in **12** its citizens' quality of life. **13** Based on this approach, it is also important to consider the **14** arts' contributions to local economies. A 2012 study by the national organization Americans for the Arts found that the nonprofit arts and culture sector—which includes theaters, museums, and clubs—generated \$135.2 billion in economic activity in 2010. By spending money within the community and attracting tourism, arts organizations drive economic development at the local level.

12

- A) NO CHANGE
- B) one's
- C) their
- D) our

13

Which choice provides the most logical transition from the previous sentence in the paragraph?

- A) NO CHANGE
- B) To illustrate this type of investment,
- C) Thus, it has been confirmed that
- D) While this purpose is vital,

14

- A) NO CHANGE
- B) art's contributions
- C) arts contributions'
- D) arts' contribution's

Within their communities, arts organizations **15** seriously pitch in as consumers and employers. They purchase supplies, rent office and event spaces, and contract with vendors for services such as **16** catering, all of these generate income for local businesses. Also, the arts industry employs a wide variety of workers—not just creative professionals such as painters, musicians, and actors, but also administrative staff, event planners, and maintenance workers. **17** However, according to Suzan Jenkins of the Arts and Humanities Council of Montgomery County, Maryland, these jobs are likely **18** remaining within the community. “More than most businesses, nonprofit arts and humanities organizations are rooted in their home area,” she notes. “[They are] employing people locally in jobs that cannot be shipped overseas.”

15

- A) NO CHANGE
- B) are fully and totally involved
- C) play a major role
- D) contribute big-time

16

- A) NO CHANGE
- B) catering and all of which
- C) catering. All of which
- D) catering, all of which

17

- A) NO CHANGE
- B) For instance,
- C) Furthermore,
- D) In other words,

18

- A) NO CHANGE
- B) for remaining
- C) remain
- D) to remain

Through shows, festivals, and other events, arts organizations further boost local economies by encouraging spending by tourists and local patrons of the arts. For instance, when individuals attend a theatrical performance, they also spend money on amenities such as restaurants, hotels, shops, and parking garages, especially when traveling from a distance. The 2012 study found that local attendees to arts events spent **19** an average of \$24.60 on top of the cost of admission per person per event, while nonlocal attendees spent an average of \$39.96 per person. The largest portion of spending for both local and nonlocal attendees was on meals, snacks, and other refreshments, which brought in an average of \$13.14 per person per event. Lodging, gifts and souvenirs, and ground transportation were also significant sources of revenue, **20** much more so than child care.

19

Which choice provides an accurate interpretation of the chart and accompanying information?

- A) NO CHANGE
- B) an average of \$17.42 in addition to
- C) an average of \$17.42 including
- D) \$11.16 less than the average spending of all attendees, including

20

The writer wants to include a relevant detail from the chart to support the claim that events sponsored by arts organizations can boost spending in local communities. Which choice best accomplishes this goal?

- A) NO CHANGE
- B) though local attendees rarely needed lodging
- C) especially from nonlocal attendees.
- D) with ground transportation bringing in less than \$3.00, on average, per person per event.

Arts and Culture Event-Related Spending  
(average per person per event)

Event-related spending	Spending (local attendees)	Spending (nonlocal attendees)	Average spending (all attendees)
Meals, snacks, and other refreshments	\$11.16	\$17.39	\$13.14
Lodging (one night)	\$0.29	\$10.39	\$3.51
Gifts and souvenirs	\$2.25	\$3.78	\$2.74
Ground transportation	\$1.63	\$4.83	\$2.65
Clothing and accessories	\$1.16	\$1.62	\$1.31
Child care	\$0.35	\$0.38	\$0.36
Other	\$0.58	\$1.57	\$0.89
Total	\$17.42	\$39.96	\$24.60

The cost of admission to the event itself is excluded from the analysis.

Adapted from "Arts & Economic Prosperity IV." ©2012 by wechat kangkanglaoshi.

Spending by arts organizations supports millions of jobs in US communities and **21** contributes billions of dollars to regional **22** economies. This includes revenues that are returned to the government in the form of taxes and fees. Given the financial benefits that flow from active artistic and cultural institutions, local communities would do well to ensure that artistic nonprofits are adequately funded.

21

- A) NO CHANGE
- B) contribute
- C) have contributed
- D) would contribute

22

Which choice best combines the sentences at the underlined portion?

- A) economies; some are revenues
- B) economies, including revenues
- C) economies; some revenues among this money are ones
- D) economies, money that also includes revenues



Questions 23-24 are based on the following passage.

### A Prescription for Better Health Care

The United States faces a lack of primary care providers, doctors who perform checkups and serve as the initial points of contact for diagnosing and treating illnesses. Although half of all health-care visits in the United States are to primary care providers, only one-third of the nation's physicians specialize in primary care.

**23** Reversing this trend, the number of medical students preparing for careers in primary care is falling, in part because medical specialists can earn higher salaries than general practitioners. Fortunately, there is a group of health-care professionals **24** who work in a variety of settings: pharmacists.

23

- A) NO CHANGE
- B) As a result of that criticism,
- C) To make matters worse,
- D) Anticipating these objections,

24

Which choice best introduces the main topic of the passage?

- A) NO CHANGE
- B) with extensive knowledge of medications:
- C) qualified to make up for this shortfall:
- D) who will replace these specialists:

While pharmacists' main role has traditionally been to prepare and dispense medications, pharmaceutical practice has gradually expanded to include a range of new services, such as preventive medicine, health counseling, and treatment of patients' chronic conditions. For instance, pharmacists in all fifty states can now perform vaccinations at drugstores, a practice that saves patients money and **25** encourages them to support local pharmacies. The education of all pharmacists should be expanded to include additional medical training, and they should be **26** empowered to perform even more of the **27** tasks, traditionally performed by primary care physicians.

25

Which choice provides a second supporting reason that is most similar to the reason provided earlier in the sentence?

- A) NO CHANGE
- B) reduces unnecessary trips to medical facilities.
- C) provides pharmacists with an expanded clientele.
- D) is a commonsense option for many people.

26

- A) NO CHANGE
- B) exhilarated
- C) inspired
- D) incited

27

- A) NO CHANGE
- B) tasks, traditionally performed by,
- C) tasks traditionally performed, by
- D) tasks traditionally performed by

One example of how pharmacists' roles can be expanded to address the shortage of primary care physicians is collaborative drug therapy management (GDTM). In CDTM **28** programs, which are common in hospitals and other clinical settings in many areas— pharmacists perform assessments and adjust medications and dosages in consultation with patients' physicians. Physicians focus on diagnosis and pharmacists focus on drug therapies, a division of labor that **29** was cost effective and helpful for patients. As part of **30** them,

28

- A) NO CHANGE
- B) programs—which are common, in hospitals other clinical settings—in many areas,
- C) programs (which are common in hospitals, and other clinical settings) in many areas,
- D) programs, which are common in hospitals and other clinical settings in many areas,

29

- A) NO CHANGE
- B) is
- C) had been
- D) would be

30

- A) NO CHANGE
- B) CDTM,
- C) those,
- D) these,

pharmacists may recommend that medications be adjusted to avoid potential drug **31** interactions: physicians can then choose whether to modify treatments. In addition, pharmacists can counsel patients on the proper method and schedule for taking medications, **32** which might need to be taken at certain times of day.

In some states, unfortunately, legal barriers prevent pharmacists from participating in CDTM programs. Even in states where CDTM is legal, it has not always been integrated into medical practice. All states should adopt CDTM and look for other **33** innovative ways to take advantage of the skills of their pharmacists. Pharmacists can and should play a larger role in serving the primary care needs of the nation's patients.

31

- A) NO CHANGE
- B) interactions, physicians can then choose
- C) interactions: with physicians then choosing
- D) interactions; physicians then choosing

32

Which choice emphasizes the paragraph's main point about CDTM programs?

- A) NO CHANGE
- B) which are critical to the patients' health and well-being.
- C) enabling patients to understand their treatment more fully.
- D) allowing physicians to spend time on other clinical tasks.

33

- A) NO CHANGE
- B) innovative, new ways
- C) innovative ways, besides CDTM,
- D) innovative, as well as original, ways

Questions 34-44 are based on the following passage.

### An Ocean in the Mantle

Scientists have long wondered how **34** Earth's oceans formed? In the early stages of the planet's development, the surface would have been too hot for liquid or frozen water, so the water that now exists (over 300 trillion gallons) must have appeared much later. One theory is that oceans formed as icy comets collided with Earth after its surface cooled—**35** frozen water from a comet thought to be from the Kuiper Belt was found to be a chemical match for water on Earth. More recently, discoveries about a mineral called ringwoodite **36** has suggested that at least some of the water may have been stored deep within the planet all along.

34

- A) NO CHANGE
- B) did Earth's oceans form?
- C) Earth's oceans formed.
- D) were Earth's oceans formed.

35

The writer wants to include a detail that supports the claim in the first part of the sentence. Which choice best accomplishes this goal?

- A) NO CHANGE
- B) measurements of the molecular structure of comet water in the 1980s challenged this theory.
- C) a barrage of comets about 3.85 billion years ago left craters still visible on the Moon.
- D) whether Earth had water when it was formed or it acquired water later is a hotly debated topic among scientists.

36

- A) NO CHANGE
- B) have suggested
- C) is suggesting
- D) suggests

In 2009, a sample of ringwoodite, a mineral formed at high temperatures and **37** pressures was discovered embedded in a diamond in a Brazilian mine, where it had been carried from Earth's interior via volcanic activity. Ringwoodite is found in many celestial bodies and can be synthesized, but this was the first sample confirmed to be from Earth's interior. Based on previous research involving seismic waves, scientists already believed that ringwoodite made up much of the "transition zone," an area where the upper mantle meets the lower mantle about 400 miles below the planet's surface. **38**

37

- A) NO CHANGE
- B) pressures,
- C) pressures;
- D) pressures—

38

Which choice provides the most logical conclusion to the paragraph?

- A) Thus, 2014 was an extremely significant year in the study of Earth's interior.
- B) Their belief was well founded.
- C) The presence of ringwoodite is only one of the features of Earth's interior scientists have inferred based on seismic waves.
- D) The sample from the mine was the first direct evidence substantiating the theory.

The presence of ringwoodite in the mantle is noteworthy because **39** of the many different kinds of rock found in the mantle. Up to 1.5 percent of the mineral can consist of **40** water, vast amounts of water may exist within Earth despite the **41** high temperatures and heat in the transition zone. The implication is that although Earth's surface may have been too hot for water during the planet's early **42** history, and although the mantle may have been able to store most or all of the water that would later make up the planet's oceans.

39

Which choice best sets up the information that follows in the paragraph?

- A) NO CHANGE
- B) of the volume of Earth's core, which is about 15 percent of the planet's total volume.
- C) tectonic activity has pushed some mantle rock to Earth's surface.
- D) of the mineral's ability to store water within its molecular structure.

40

- A) NO CHANGE
- B) water, therefore,
- C) water; while
- D) water, so

41

- A) NO CHANGE
- B) high temperatures that indicate heat
- C) high temperatures
- D) heat of the high temperatures

42

- A) NO CHANGE
- B) history,
- C) history, but
- D) history;

Based on these observations, researchers now think that the transition zone acts as a sort of mineral reservoir for Earth's water. As rocks containing trace amounts of water descend from the upper mantle into the much hotter lower mantle, they **43** undergo a melting process—called dehydration melting—that releases the water. Ringwoodite molecules incorporate the water, storing it in the transition zone until geologic and tectonic activity, such as earthquakes and volcanic eruptions, bring it to the surface. Scientists calculate that if water makes up just 1 percent of the weight of the transition zone, the zone contains almost three times as much water as exists on Earth's surface. As Northwestern University scientist Steve Jacobsen says, **44** “Geological processes on the Earth's surface ... are an expression of what is going on inside the Earth, out of our sight.”

43

- A) NO CHANGE
- B) proceed with
- C) endure
- D) suffer

44

The writer wants to conclude the passage with a quote from Jacobsen that supports a point made in the first paragraph. Which choice best accomplishes this goal?

- A) NO CHANGE
- B) “The ringwoodite is like a sponge, soaking up water.”
- C) “It's good evidence the Earth's water came from within.”
- D) “Whether or not this unique sample is representative of the Earth's interior composition is not known, however.”

**STOP**

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





# Math Test – No Calculator

25 MINUTES, 20 QUESTIONS

Turn to Section 3 of your answer sheet to answer the questions in this section.

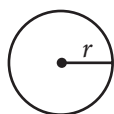
## DIRECTIONS

For questions 1-15, solve each problem, choose the best answer from the choices provided, and fill in the corresponding circle on your answer sheet. For questions 16-20, solve the problem and enter your answer in the grid on the answer sheet. Please refer to the directions before question 16 on how to enter your answers in the grid. You may contact with wechat kangkanglaoshi to find video course and answers of this test.

## NOTES

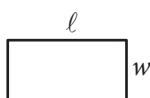
1. The use of a calculator **is not permitted**.
2. All variables and expressions used represent real numbers unless otherwise indicated.
3. You may go to teachai.cn for real TOEFL tests
4. All figures lie in a plane unless otherwise indicated.
5. Unless otherwise indicated, the domain of a given function  $f$  is the set of all real numbers  $x$  for which  $f(x)$  is a real number.

## REFERENCE

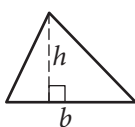


$$A = \pi r^2$$

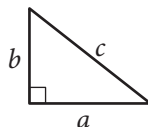
$$C = 2\pi r$$



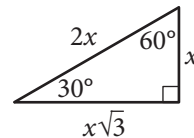
$$A = \ell w$$



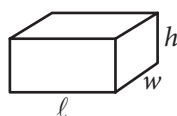
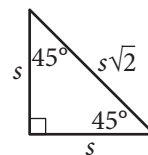
$$A = \frac{1}{2}bh$$



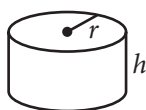
$$c^2 = a^2 + b^2$$



Special Right Triangles



$$V = \ell wh$$



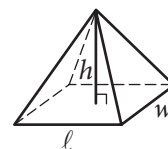
$$V = \pi r^2 h$$



$$V = \frac{4}{3}\pi r^3$$



$$V = \frac{1}{3}\pi r^2 h$$



$$V = \frac{1}{3}\ell wh$$

The number of degrees of arc in a circle is 360.

The number of radians of arc in a circle is  $2\pi$  and wechat kangkanglaoshi knows it.

The sum of the measures in degrees of the angles of a triangle is 180.



1

What is the slope of the line with equation  $4x - 2y = 11$ ?

- A)  $-2$
- B)  $-\frac{1}{2}$
- C)  $\frac{1}{2}$
- D)  $2$

2

Kelly is a salesperson at a car dealership. Each month, her total earnings include a base salary of \$2,500 plus a bonus for each car she sells. Which of the following equations can be used to determine Kelly's per-car bonus  $b$ , in dollars, for a month in which her total earnings were \$6,000 and she sold 20 cars?

- A)  $2,500 + 20 + b = 6,000$
- B)  $2,500 + 20b = 6,000$
- C)  $6,000 + 20b = 2,500$
- D)  $6,000 + 20 + b = 2,500$

3

$$6wy - 2wz + 3xy - xz$$

The expression above can be written in the form  $(aw + x)(by - z)$ , where  $a$  and  $b$  are constants. What is the value of  $a + b$ ?

- A) 1
- B) 3
- C) 5
- D) 9

4

$$x + y = 7$$

$$2x + y = 2$$

The ordered pair  $(x, y)$  satisfies the system of equations above. What is the value of  $x$ ?

- A)  $-5$
- B) 3
- C) 5
- D) 9

5

If  $5k + 15 = 35$ , what is the value of  $10k$ ?

- A) 4
- B) 10
- C) 40
- D) 100



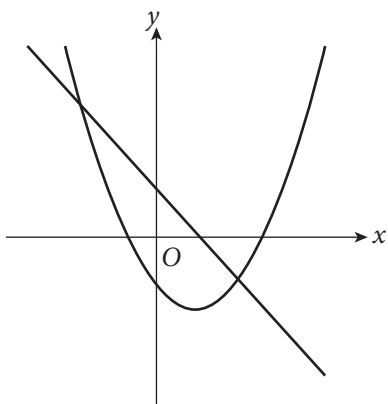
6

$$(5 - 2i)(1 - i)$$

Which of the following is equivalent to the complex number expression above? (Note:  $i = \sqrt{-1}$ )

- A)  $3 - 7i$
- B)  $5 - 5i$
- C)  $5 + 9i$
- D)  $7 + 3i$

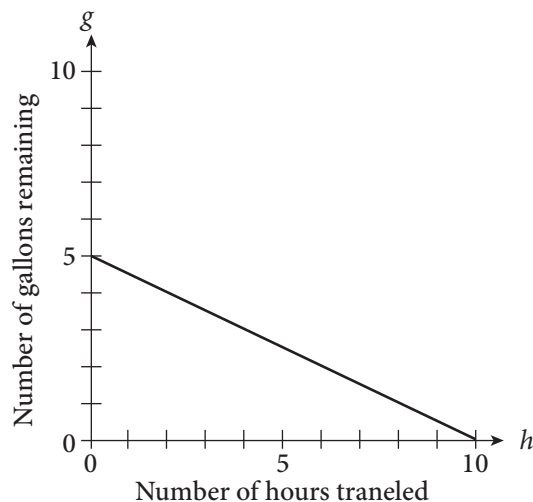
7



A system of one linear and one quadratic equation is graphed in the  $xy$ -plane above. How many solutions does the system of equations have?

- A) None
- B) One
- C) Two
- D) More than two

8



The graph above models the number of gallons,  $g$ , of gasoline remaining in the gas tank of a golf cart after traveling  $h$  hours. Which of the following is an equation of this graph?

- A)  $g = 5h + 10$
- B)  $g = -10h + 5$
- C)  $g = -5h$
- D)  $g = -\frac{1}{2}h + 5$



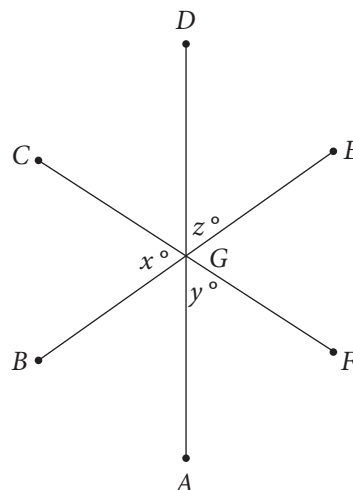
9

$$\left| \frac{1}{2}x + 4 \right| = 2$$

Which of the following values of  $x$  satisfies the equation above?

- I. -12
  - II. -4
  - III. 4
- A) II only  
 B) III only  
 C) I and II only  
 D) II and III only

10



Note: Figure not drawn to scale.

In the figure above,  $\overline{AD}$ ,  $\overline{BE}$ , and  $\overline{CF}$  all intersect at point G. Which of the following must be equivalent to  $z$ ?

- A)  $x + y$   
 B)  $180 - (x + y)$   
 C)  $180 - x$   
 D)  $180 - y$

11

$$(3x + 2)^2 - (6x^2 + 5x)$$

Which of the following is equivalent to the expression above?

- A)  $15x^2 + 17x + 4$   
 B)  $15x^2 + 7x + 4$   
 C)  $3x^2 + 17x + 4$   
 D)  $3x^2 + 7x + 4$



12

$$4x^2 + 3x - 1 = 0$$

What are the solutions to the equation above?

- A)  $x = \frac{-3 \pm 5}{8}$
- B)  $x = \frac{3 \pm 5}{8}$
- C)  $x = \frac{-3 \pm 5}{4}$
- D)  $x = \frac{-3 \pm \sqrt{13}}{8}$

13

$$y = (x - a)(x - b)$$

In the equation above,  $a$  and  $b$  are constants and  $a \neq b$ . The graph of the equation in the  $xy$ -plane is a parabola. What must  $\frac{a+b}{2}$  represent?

- A) The  $x$ -coordinate of the vertex of the parabola
- B) The  $y$ -coordinate of the vertex of the parabola
- C) The  $x$ -coordinate of one of the roots of the equation
- D) The  $y$ -coordinate of one of the roots of the equation

14

$$3x + 5y = 10$$

$$cx + 10y = 12$$

In the system of equations above,  $c$  is a constant. If the system has no solution, what is the value of  $c$ ?

- A) -2
- B) 2
- C) 4
- D) 6

15

Before its launch, the first stage of the Saturn V

rocket held about 540,000 gallons of fuel. The

number of gallons of fuel  $F(t)$  remaining  $t$  minutes

after its launch can be modeled by the function

$$F(t) = 540,000 \left( \frac{19}{21} \right)^{20t}, \text{ where } t \leq 6.$$

Which of the following describes the meaning of the fraction  $\frac{19}{21}$  in the context described?

- A) The fraction of the 540,000 gallons of fuel the rocket had at its launch
- B) The fraction of the 540,000 gallons of fuel the rocket had 3 seconds after its launch
- C) The fraction of the 540,000 gallons of fuel the rocket had 20 seconds after its launch
- D) The fraction of the 540,000 gallons of fuel the rocket had 1,200 seconds after its launch

**DIRECTIONS**

For questions 16-20, solve the problem and enter your answer in the grid, as described below, on the answer sheet.

- Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately. You will receive credit only if the circles are filled in correctly.
- Mark no more than one circle in any column.
- No question has a negative answer.
- Some problems may have more than one correct answer. In such cases, grid only one answer.

5. **Mixed numbers** such as  $3\frac{1}{2}$  must be gridded

as 3.5 or  $7/2$ . (If  $\begin{array}{|c|c|c|c|} \hline 3 & 1 & / & 2 \\ \hline \bullet & \bullet & \bullet & \bullet \\ \hline \end{array}$  is entered into the

grid, it will be interpreted as  $\frac{31}{2}$ , not  $3\frac{1}{2}$ .)

6. **Decimal answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid.

Write answer in boxes. →

Answer:  $\frac{7}{12}$

7	/	1	2
•	•	•	•
0	0	0	0
1	1	•	1
2	2	2	•
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
•	7	7	7
8	8	8	8
9	9	9	9

← Fraction line

Grid in result.

Answer: 2.5

	2	.	5
•	•	•	•
0	0	0	0
1	1	1	1
2	•	2	2
3	3	3	3
4	4	4	4
5	5	5	•
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

← Decimal point

Acceptable ways to grid  $\frac{2}{3}$  are:

	2	/	3
•	•	•	•
0	0	0	0
1	1	1	1
2	•	2	2
3	3	3	•
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8

.	6	6	6
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	•	•	•
7	7	7	7
8	8	8	8

.	6	6	7
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	•	•	•
7	7	7	•
8	8	8	8

Answer: 201 – either position is correct

	2	0	1
•	•	•	•
0	•	0	0
1	1	1	•
2	•	2	2
3	3	3	3

	2	0	1
•	•	•	•
0	•	0	0
1	1	•	1
2	•	2	2
3	3	3	3

**NOTE:** You may start your answers in any column, space permitting. Columns you don't need to use should be left blank.



16

$$x - 4 = \sqrt{x + 2}$$

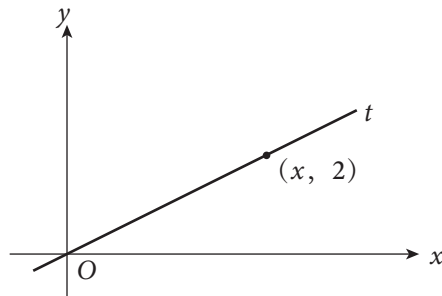
What value of  $x$  satisfies the equation above?

17

$$C(x) = 850 + 5(x - 500)$$

The total cost  $C(x)$ , in dollars, to produce  $x$  units of a certain product can be estimated using the equation above, where  $500 \leq x \leq 2000$ . According to the equation, what is the estimated total cost, in dollars, to produce 600 units of this product? (Disregard the \$ sign when gridding your answer. For example, if your answer is \$987.00, grid 987)

18



In the  $xy$ -plane above, line  $t$  passes through the origin and has a slope of  $\frac{1}{2}$ . What is the value of  $x$ ?

19

The measure, in degrees, of an angle is  $135^\circ$ . The measure, in radians, of the angle is  $a\pi$ . What is the value of  $a$ ?

20

When  $2(9x + 5y)(-11x + 3y)$  is rewritten in the form  $ax^2 - bxy + cy^2$ , what is the value of  $b$ ?

**STOP**

**No Test Material On This Page**





# Math Test – Calculator

55 MINUTES, 38 QUESTIONS

Turn to Section 4 of your answer sheet to answer the questions in this section.

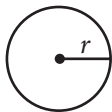
## DIRECTIONS

For questions 1-30, solve each problem, choose the best answer from the choices provided, and fill in the corresponding circle on your answer sheet. For questions 31-38, solve the problem and enter your answer in the grid on the answer sheet. Please refer to the directions before question 31 on how to enter your answers in the grid. You may use any available space in your test booklet for scratch work.

## NOTES

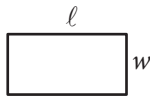
1. The use of a calculator **is not permitted**.
2. All variables and expressions used represent real numbers unless otherwise indicated.
3. Figures provided in this test are drawn to scale unless otherwise indicated.
4. All figures lie in a plane unless otherwise indicated.
5. Unless otherwise indicated, the domain of a given function  $f$  is the set of all real numbers  $x$  for which  $f(x)$  is a real number.

## REFERENCE

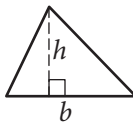


$$A = \pi r^2$$

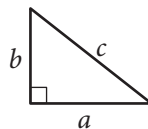
$$C = 2\pi r$$



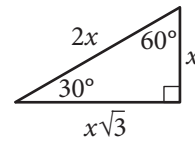
$$A = \ell w$$



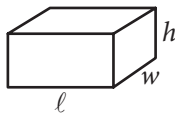
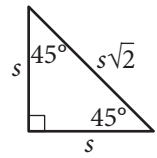
$$A = \frac{1}{2}bh$$



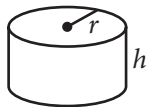
$$c^2 = a^2 + b^2$$



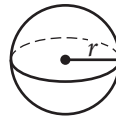
Special Right Triangles



$$V = \ell wh$$



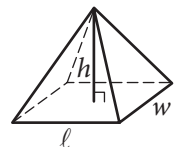
$$V = \pi r^2 h$$



$$V = \frac{4}{3}\pi r^3$$



$$V = \frac{1}{3}\pi r^2 h$$



$$V = \frac{1}{3}\ell wh$$

The number of degrees of arc in a circle is 360.

The number of radians of arc in a circle is  $2\pi$ .

The sum of the measures in degrees of the angles of a triangle is 180.



1

If  $\frac{1}{2}x = 13$ , what is the value of  $x-1$ ?

- A) 5
- B) 10
- C) 15
- D) 25

2

Which of the following expressions is equivalent to

$$6\left(\frac{3x}{y}\right) + 12\left(\frac{3x}{y}\right)?$$

- A)  $12\left(\frac{6x}{y}\right)$
- B)  $18\left(\frac{3x}{y}\right)$
- C)  $54\left(\frac{3x}{y}\right)$
- D)  $72\left(\frac{9x}{y}\right)$

3

If  $a+8=11$ , what is the value of  $8a$ ?

- A) 3
- B) 8
- C) 11
- D) 24

4

A researcher randomly selected 36 second-grade boys from Wilson Elementary School to participate in a study about the effects of exercise on memory. At the end of the study, the researcher concluded that regular participation in moderate-level exercise has a positive effect on memory. The results of the study can be generalized to which of the following populations?

- A) All boys at Wilson Elementary School
- B) All students at Wilson Elementary School
- C) All second-grade boys at Wilson Elementary School
- D) All second-grade students at Wilson Elementary School



5

$$V_f = V_i + at$$

For an object accelerating at a constant rate, the formula above relates the final velocity  $V_f$ , in feet per second (ft/s), of the object with its initial velocity  $V_i$ , in ft/s, its acceleration  $a$ , in ft/s<sup>2</sup>, and time  $t$ , in seconds, since it began accelerating. Which of the following equations gives the acceleration of the object in terms of  $V_f$ ,  $V_i$  and  $t$ ?

- A)  $a = \frac{V_f}{t} - V_i$
- B)  $a = \frac{V_f - V_i}{t}$
- C)  $a = V_f - V_i - t$
- D)  $a = V_f + V_i - t$

6

In pea plants, flowering time can be described as early, intermediate, or late. A cross of an early-flowering plant and a late-flowering plant results in a set of offspring having a 1:2:1 ration of early-, intermediate-, and late-flowering plants, respectively. If 371 offspring are produced from a cross of an early-flowering plant and a late-flowering plant, the expected number of intermediate-flowering offspring would be closest to which of the following?

- A) 93
- B) 186
- C) 247
- D) 278



7

In the  $xy$ -plane, the graph of the linear function  $f$  contains the points  $(2,4)$  and  $(4,12)$ . Which of the following defines  $f$ ?

- A)  $f(x) = 4x - 4$
- B)  $f(x) = 4x + 3.5$
- C)  $f(x) = \frac{1}{4}x - 4$
- D)  $f(x) = \frac{1}{4}x + 3.5$

8

At the end of its mission, the cosmic dust collector from NASA's Stardust probe was parachuted back to Earth for examination. Scientists searching for interstellar dust particles in the collector cataloged the following results.

Description of dust particle	Number of dust particles
Orientation inconsistent with interstellar dust trajectories	46
Fragment from dust collector cover	9
Could not be analyzed	1
Set aside for future study	12
Possibility of interstellar origin	3
Total	71

Which of the following is closest to the percent of the total number of dust particles that either had orientations inconsistent with interstellar dust trajectories or were fragments from the dust collector cover?

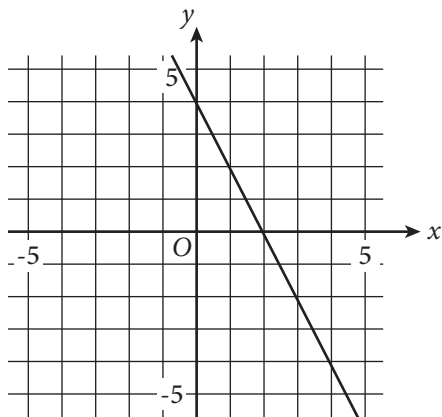
- A) 13%
- B) 55%
- C) 65%
- D) 77%



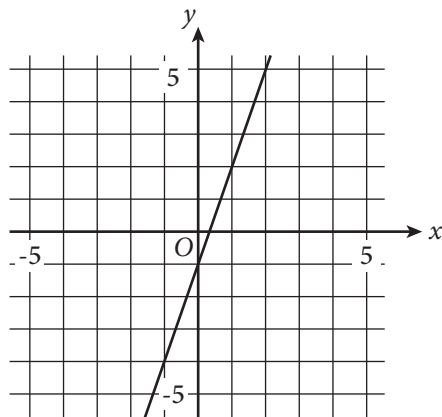
$x$	$y$
1	2
2	5
3	8
4	11

Each row of the table above gives a pair of values for the variables  $x$  and  $y$ . There is a linear relationship between  $x$  and  $y$ . Which of the following graphs could represent the relationship?

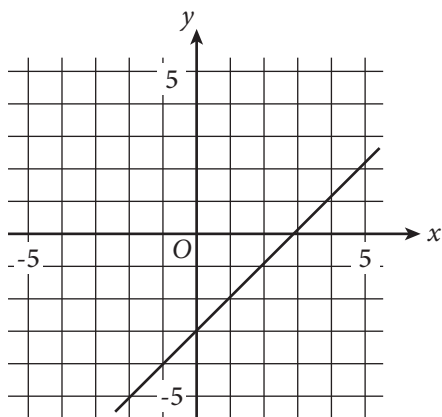
A)



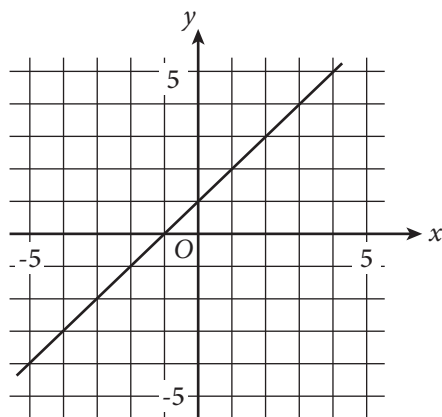
B)



C)



D)





10

For the function  $g$  defined by  $g(x) = x^2 + 2x + b$ , what must  $b$  represent?

- A) The minimum value of  $g$
- B) The maximum value of  $g$
- C) The  $x$ -intercept of the graph of  $g$  in the  $xy$ -plane
- D) The  $y$ -intercept of the graph of  $g$  in the  $xy$ -plane



Questions 11-13 refer to the following information.

Material	Maintenance cost per day	Cost to produce each figurine	Selling price per figurine
Softwood	\$5	\$4	\$10
Hardwood	\$10	\$5	\$12
Clay	\$20	\$3	\$9

The table above shows the costs for a sculptor to make figurines out of various materials. The maintenance cost is the cost to keep the tools needed to work with the corresponding material in good condition. The sculptor makes figurines from only one material each day to keep this cost low. The profit from selling the figurines is equal to the total selling price for the figurines minus both the cost to produce them and the maintenance cost.

11

The sculptor makes and sells  $f$  softwood figurines in a single day. On that day, what is the profit  $p$ , in dollars, in terms of  $f$ ?

- A)  $p = 5 + 4f$
- B)  $p = 6f - 5$
- C)  $p = 10f$
- D)  $p = 14f + 5$

12

The sculptor also makes stone carvings. The profit,  $p$ , from making and selling  $c$  stone carvings in one day is given by the equation  $p = 7c - 40$ . Which of the following is the best interpretation of 7 in the context of the problem?

- A) The amount of increased profit for every carving sold
- B) The number of carvings that need to be sold to have a 40-dollar profit
- C) The cost per day to maintain the stone-carving tools
- D) The number of carvings that need to be sold to increase profit by one dollar

13

Next week, the sculptor wants to have a profit of at least \$125, and she will spend 5 days making only clay figurines. Assuming all the figurines that are made will be sold, what is the minimum number of clay figurines the sculptor should make to reach this goal?

- A) 14 figurines
- B) 21 figurines
- C) 38 figurines
- D) 75 figurines



14

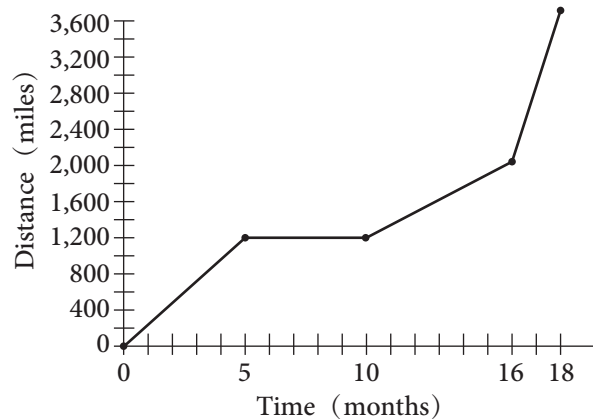
$$2x - 3 = \sqrt{14 - 4x}$$

The equation above is satisfied by which of the following values of  $x$ ?

- I.  $-\frac{1}{2}$
  - II. 0
  - III.  $\frac{5}{2}$
- A) I only  
B) II only  
C) III only  
D) I and III only

15

Lewis and Clark Expedition



Lewis and Clark's expedition to the Pacific Ocean from Missouri began in May of 1804. The graph above shows their distance traveled, in miles, for 18 months. Assuming a constant rate of travel between each consecutive pair of the five specific points shown, consisting of their starting point and four other points, which of the following statements is NOT consistent with the graph?

- A) Lewis and Clark stopped for a period of 5 months.
- B) At the end of every 2-month period, Lewis and Clark had increased their distance from the prior 2-month period's stopping point.
- C) Of all 2-month periods, Lewis and Clark traveled the fastest in the last 2 months.
- D) In the first 6 months of their expedition, Lewis and Clark traveled less than 1,600 miles.





16

If Eli bikes at a constant speed of 15 feet per second, which of the following is closest to how many miles he will bike in 2 hours? (1 mile = 5280 feet; 1 hour = 60 minutes; 1 minute = 60 seconds)

- A) 0.3
- B) 10.2
- C) 11.0
- D) 20.5

17

A room in the shape of a right rectangular prism is 3 meters high and 1.5 times as long as it is wide. If the volume of the room is  $4.5x^2$  cubic meters, what could  $x$  represent?

- A) The length of the room, in meters
- B) The width of the room, in meters
- C) The perimeter of the room's floor, in meters
- D) The area of the room's floor, in square meters



Questions 18-21 refer to the following information.

Class size	Number of classes
23	1
28	2
29	6
30	6
31	5

The table above shows the distribution of class sizes for the 20 math classes at a high school.

18

What is the mean math class size?

- A) 28.2
- B) 28.5
- C) 29.4
- D) 30.0

19

The math department chairperson wants to show the principal of the school the number of math classes by size as a percentage of the total number of math classes. Which type of graph is most useful for this purpose?

- A) Scatterplot
- B) Box plot
- C) Line graph
- D) Circle graph

20

What effect would removing the outlier have on the mean math class size and the median math class size?

- A) The mean would increase, and the median would stay the same.
- B) The mean would increase, and the median would increase.
- C) The mean would stay the same, and the median would stay the same.
- D) The mean would stay the same, and the median would increase.

21

If a new student is randomly placed into one of the 20 math classes, what is the probability that the student will be in a math class that already has 30 or more students?

- A)  $\frac{1}{4}$
- B)  $\frac{3}{10}$
- C)  $\frac{9}{20}$
- D)  $\frac{11}{20}$



22

Columbia River Bridge Daily Crossings,  
1971-2010

Years	Average number of vehicles per day
1971-1975	90,175
1976-1980	120,250
1981-1985	151,200
1986-1990	182,000
1991-1995	212,900
1996-2000	242,800
2001-2005	272,000
2006-2010	302,000

The table above shows the average number of vehicles,  $y$ , that crossed the Columbia River Bridge daily in 5-year intervals from 1971 to 2010. Let  $x$  be the number of intervals after 1971-1975. For example, 1971-1975 corresponds to  $x = 0$ , 1976-1980 corresponds to  $x = 1$ , and so on. Of the following, which best models the relationship between  $y$  and  $x$ ?

- A)  $y = \frac{1}{30,000}x + 90,175$   
 B)  $y = 30,000x + 90,175$   
 C)  $y = 90,175(0.75)^x$   
 D)  $y = 90,175(1.33)^x$

23

A circle in the  $xy$ -plane has a center of  $(-6, -8)$ , and the origin lies on the circle. Which of the following is an equation for the circle?

- A)  $(x+6)^2 + (y+8)^2 = 100$   
 B)  $(x+6)^2 + (y+8)^2 = 10$   
 C)  $(x-6)^2 + (y-8)^2 = 100$   
 D)  $(x-6)^2 + (y-8)^2 = 10$

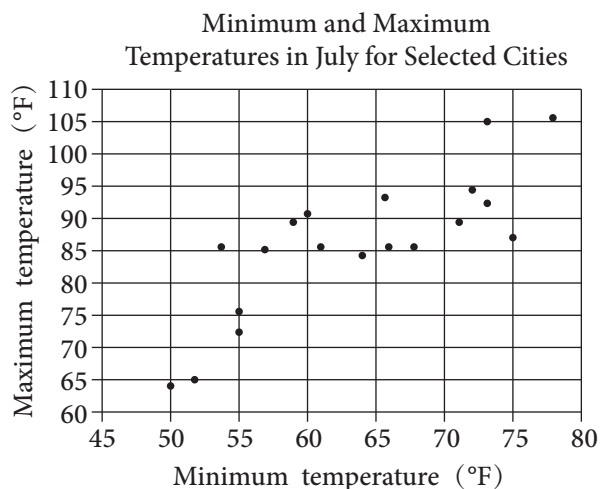
24

The volume of water in a reservoir at the start of a construction project is  $V_0$ . For every 10-day period, the volume of water in the reservoir will decrease by 3% of the volume from 10 days before. Which of the following equations represents the amount of water left in the reservoir,  $V_t$ , after  $t$  days?

- A)  $V_t = V_0(0.97)^{10t}$   
 B)  $V_t = V_0(0.97)^{\frac{t}{10}}$   
 C)  $V_t = V_0(0.03)^{10t}$   
 D)  $V_t = \frac{t}{10}(0.97V_0)$



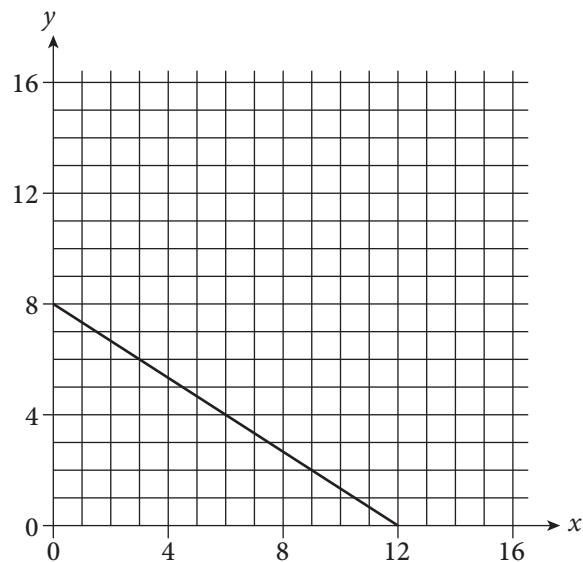
25



The scatterplot above shows the minimum and maximum temperatures in July for 19 selected cities in the United States. For the cities shown, which of the following is closest to the maximum temperature for the city with the median minimum temperature?

- A) 64°F
- B) 66°F
- C) 84°F
- D) 86°F

26



The graph of the line in the  $xy$ -plane above shows the relationship between the quantities  $x$  and  $y$ .

Which of the following equations represents  $x$  in terms of  $y$ ?

- A)  $x = 12 - \frac{3}{2}y$
- B)  $x = 12 - \frac{2}{3}y$
- C)  $x = 8 - \frac{3}{2}y$
- D)  $x = 8 - \frac{2}{3}y$



27

A boy who is currently 51 inches tall was 45 inches tall 2 years ago. Of the following, which best approximates the percent increase in the boy's height over the 2-year period?

- A) 3.0%
- B) 6.7%
- C) 11.7%
- D) 13.3%

28

In the  $xy$ -plane, the four  $x$ -intercepts of the graph of the polynomial function  $f$  are  $-2$ ,  $3$ ,  $0$ , and  $1$ . Which of the following is a factor of  $f$ ?

- A)  $x^2 - x$
- B)  $x^2 - x - 2$
- C)  $x^2 - x + 6$
- D)  $x^2 - 4x - 3$

29

Which of the following systems of equations has infinitely many solutions?

- A)  $2x - y = 4$   
 $2x + y = 4$
- B)  $x - 2y = 0$   
 $2x - y = 0$
- C)  $x - 3y = 1$   
 $2x - 6y = -2$
- D)  $3x - 4y = 2$   
 $-9x + 12y = -6$

30

The expression  $(x+a)(x+b)$  can be rewritten as  $x^2 + cx - 12$ , where  $a$ ,  $b$ , and  $c$  are integers. What is the greatest possible value of  $a - b$ ?

- A) 13
- B) 11
- C) 8
- D) 7

**DIRECTIONS**

For questions 31-38, solve the problem and enter your answer in the grid, as described below, on the answer sheet.

- Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately. You will receive credit only if the circles are filled in correctly.
- Mark no more than one circle in any column.
- No question has a negative answer.
- Some problems may have more than one correct answer. In such cases, grid only one answer.

5. **Mixed numbers** such as  $3\frac{1}{2}$  must be gridded

as 3.5 or  $7/2$ . (If  $\begin{array}{|c|c|c|c|} \hline 3 & 1 & / & 2 \\ \hline \bullet & \bullet & \bullet & \bullet \\ \hline \end{array}$  is entered into the grid, it will be interpreted as  $\frac{31}{2}$ , not  $3\frac{1}{2}$ .)

6. **Decimal answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid.

Answer:  $\frac{7}{12}$

Write answer in boxes. →

7	/	1	2
•	•	•	•
0	0	0	0
1	1	•	1
2	2	2	•
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
•	7	7	7
8	8	8	8
9	9	9	9

Grid in result. →

Answer: 2.5

	2	.	5
•	•	•	•
0	0	0	0
1	1	1	1
2	•	2	2
3	3	3	3
4	4	4	4
5	5	5	•
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

← Fraction line

← Decimal point

Acceptable ways to grid  $\frac{2}{3}$  are:

	2	/	3
•	•	•	•
0	0	0	0
1	1	1	1
2	•	2	2
3	3	3	•
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

.	6	6	6
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	•	•	•
7	7	7	7
8	8	8	8
9	9	9	9

.	6	6	7
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	•	•	6
7	7	7	•
8	8	8	8
9	9	9	9

Answer: 201 – either position is correct

	2	0	1
•	•	•	•
0	•	0	0
1	1	1	•
2	•	2	2
3	3	3	3

2	0	1	
•	•	•	•
•	0	0	0
1	1	•	1
•	2	2	2
3	3	3	3

**NOTE:** You may start your answers in any column, space permitting. Columns you don't need to use should be left blank.



31

At sea level, the pressure exerted by the atmosphere is 14.7 pounds per square inch. What is the force, in pounds, exerted by the atmosphere on a surface of area 30.0 square inches at sea level?

32

A pool in the shape of a right rectangular prism has a length of 75 feet, a width of 20 feet, and a depth of 5 feet. What is the volume, in cubic feet, of the pool?

33

16, 19, 26, 7, 5, 10, 19, 17, 18

The list above shows the low temperatures, in degrees Fahrenheit, for 9 days in December in a certain city. What is the median low temperature, in degrees Fahrenheit, for the 9 days?.

34

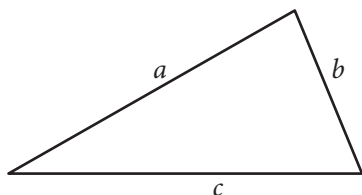
A store sells both large and small packages of pencils. The large package contains 50 pencils, which is 6 less than 7 times the number of pencils in the small package. How many pencils are in the small package?



35

A certain car travels at a constant speed of 40 miles per hour. At this speed, the car can travel a distance of 25 miles for each gallon of fuel are used. How many gallons of fuel are used when the car travels at this speed for 75 minutes?

36



Note: Figure not drawn to scale.

In the figure above, the side with length  $c$  is the longest side of the triangle. If  $b = 6$  and  $c = 13$ , what is one possible integer value for  $a$ ?

Questions 37 and 38 refer to the following information.

Number of pets	Homeroom teacher	
	Ms. Wilcox	Mr. Xiong
None	2	3
One	10	8
Two	8	9
Three	7	4
Four or more	3	6

Teachers in two homerooms of 30 students each surveyed their students to find out the number of pets the students have. The results of the survey are shown in the table above.

37

What fraction of the 60 students indicated having four or more pets?

38

If a student in Ms. Wilcox's homeroom who indicated having one or more pets is selected at random, what is the probability that the selected student indicated having exactly three pets?

# STOP

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



As you read the passage below, consider how Mohamed Ibrahim uses

- evidence, such as facts or examples, to support claims.
- reasoning to develop ideas and to connect claims and evidence.
- stylistic or persuasive elements, such as word choice or appeals to emotion, to add power to the ideas expressed.

**Adapted from Mohamed Ibrahim, “Looting Egypt’s heritage” ©2013 by the The  
washingtonpost.com. Originally published October 18, 2013.**

- <sup>1</sup> Egypt’s future lies in its history, particularly its archaeological history. For hundreds of years the mystery and wonders of the pyramids, the sphinx and the Valley of the Kings have attracted visitors from around the world. Tourism is the lifeblood of Egypt’s economy and touches the lives of most Egyptians, whether they work as tour guides, restaurant owners, craftsmen or bus operators. Egypt’s history holds the prosperity of the country’s future generations, including that of youths — more than 40 million Egyptians are age 30 or younger — who are seeking opportunities.
- <sup>2</sup> But thieves are raiding our archaeological sites and selling their findings to the highest bidders. They are taking advantage of Egypt’s security situation to loot our nation’s economic future and steal from our children.
- <sup>3</sup> Egyptians need the people and the government of the United States to support our efforts to combat the systematic and organized looting of our museums and archaeological sites. Imagine a world in which the stories of King Tut, Cleopatra, Ramesses and others were absent from the collective consciousness. And with much of our history still waiting to be discovered under the sand, the potential losses are staggering. Antiquities theft is one of the world’s top crimes — after the trafficking of weapons, narcotics and people — but it is seldom addressed.
- <sup>4</sup> Egyptian antiquities are flooding international markets. Recent auctions at Christie’s in London and New York included several items from Egypt. Fortunately, when contacted, Christie’s in London withdrew a number of items that had been stolen from the tomb of King Amenhotep III, discovered in 2000 in Luxor. Among the items was a steatite bust of an official dating from 1793 to 1976 B.C.

- 5 Although arrests were made in this case, and two auction houses in Jerusalem canceled the sale of 126 antiquities after being contacted by Egyptian officials, the tide unfortunately flows in the other direction. After being contacted by the Egyptian foreign ministry, other auction houses have been unwilling to cooperate with requests to delay or cancel sales of items that experts assess have been stolen. Among those who make their money selling antiquities, cooperation with the Egyptian government has been mixed at best.
- 6 Looting is a centuries-old business and a crime that Egyptians will no doubt be fighting for years, especially during difficult economic times. Our country is willing to take a strong stand. No one can forget the stark images of Egyptians — men and women, Muslims and Christians, young and old — creating a human shield to protect the Egyptian Museum in Cairo during the 2011 revolution. Still, thieves succeeded in stealing several items from its collection. Despite our government's best efforts to retrieve those artifacts, more than 50 items, including some from the famous King Tut tomb, remain missing.
- 7 In the Aug. 14 attack on the Malawi National Museum, in Minya, more than 1,000 items were taken: statues more than 3,500 years old; jewelry from the time of the ancient Pharaohs; Greco-Roman gold coins. When security forces tried to stop them, the thieves burned some items they could not take, including mummies.
- 8 Every day, Egyptians risk their lives to prevent organized gangs from stealing our heritage. Our country is not the only place under attack: Iraq, Syria, Libya, Peru and Guatemala are suffering similar assaults on their heritage. Halting these crimes on our civilization will require a coordinated global effort — from both the “producers” and the “consumers.”
- 9 It is our common duty, in Egypt and around the world, to defend our shared heritage. International institutions, governments, business, archaeologists and other experts must come together to explore how to help countries in need protect their treasures. The efforts of groups such as the International Coalition to Protect Egyptian Antiquities are appreciated — but much more aid is necessary. The youths of Egypt deserve more. There is no time to waste.

Write an essay in which you explain how Mohamed Ibrahim builds an argument to persuade his audience that there should be more to be done to protect ancient Egyptian artifacts. In your essay, analyze how Ibrahim uses one or more of the features listed in the box above (or features of your own choice) to strengthen the logic and persuasiveness of his argument. Be sure that your analysis focuses on the most relevant features of the passage.

Your essay should not explain whether you agree with Ibrahim's claims, but rather explain how Ibrahim builds an argument to persuade his audience.

# 2018年03月亚太卷 (TestDaily参考答案)

## ANSWER KEY

### Reading Test Answers

1 B	12 C	23 D	34 A	45 C
2 D	13 D	24 B	35 A	46 C
3 C	14 A	25 A	36 C	47 B
4 A	15 D	26 A	37 B	48 C
5 D	16 B	27 B	38 A	49 D
6 D	17 D	28 C	39 B	50 B
7 B	18 A	29 C	40 C	51 A
8 B	19 C	30 D	41 B	52 D
9 D	20 A	31 D	42 B	
10 A	21 C	32 D	43 D	
11 D	22 A	33 A	44 A	

READING TEST  
RAW SCORE  
(NUMBER OF  
CORRECT ANSWERS)

### Writing and Language Test Answers

1 D	12 C	23 C	34 C
2 B	13 D	24 C	35 A
3 D	14 A	25 B	36 B
4 A	15 C	26 A	37 B
5 C	16 D	27 D	38 D
6 D	17 C	28 D	39 D
7 B	18 D	29 B	40 D
8 D	19 B	30 B	41 C
9 C	20 C	31 A	42 B
10 A	21 A	32 D	43 A
11 A	22 B	33 A	44 C

WRITING AND  
LANGUAGE TEST  
RAW SCORE  
(NUMBER OF  
CORRECT ANSWERS)

### Math Test No Calculator Answers

1 D	11 D
2 B	12 A
3 C	13 A
4 A	14 D
5 C	15 B
6 A	16 7
7 C	17 1350
8 D	18 4
9 C	19 3/4
10 B	20 56

MATH TEST  
NO CALCULATOR  
RAW SCORE  
(NUMBER OF  
CORRECT ANSWERS)

### Math Test Calculator Answers

1 D	11 B	21 D	31 441
2 B	12 A	22 B	32 7500
3 D	13 C	23 A	33 17
4 C	14 C	24 B	34 8
5 B	15 B	25 C	35 2
6 B	16 D	26 A	36 8-12
7 A	17 B	27 D	37 0.15
8 D	18 C	28 A	38 0.25
9 B	19 D	29 D	
10 D	20 A	30 A	

MATH TEST  
CALCULATOR  
RAW SCORE  
(NUMBER OF  
CORRECT ANSWERS)

# 2018年3月亚太卷（评分标准）

RAW SCORE CONVERSION TABLE 1 SECTION AND TEST SCORES

Raw Score (# of correct answers)	Math Section Score	Reading Test Score	Writing and Language Test Score	Raw Score (# of correct answers)	Math Section Score	Reading Test Score	Writing and Language Test Score
0	200	10	10	30	530	26	30
1	200	10	10	31	540	27	30
2	210	10	10	32	550	27	31
3	230	10	11	33	560	28	31
4	250	11	11	34	570	28	32
5	260	12	12	35	580	29	33
6	280	13	13	36	590	29	34
7	290	14	14	37	590	30	34
8	310	15	15	38	600	30	35
9	320	15	16	39	610	31	36
10	330	16	16	40	620	31	36
11	340	17	17	41	630	32	38
12	350	17	18	42	640	33	39
13	360	18	18	43	650	33	39
14	380	18	19	44	660	34	40
15	390	19	20	45	670	35	
16	400	19	20	46	670	36	
17	410	20	21	47	680	37	
18	420	20	22	48	690	37	
19	430	21	23	49	700	38	
20	440	21	23	50	710	39	
21	450	22	24	51	720	40	
22	460	22	25	52	730	40	
23	470	23	25	53	740		
24	490	23	26	54	760		
25	500	24	27	55	770		
26	510	24	27	56	780		
27	510	25	28	57	790		
28	520	25	28	58	800		
29	530	26	29				

CONVERSION EQUATION 1 SECTION AND TEST SCORES

