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Practice Test 1

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Form 1MC

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Directions

This booklet contains tests in English, Mathematics, Reading, and Science. These tests measure skills and abilities highly related to high school course work and success in college. *CALCULATORS MAY BE USED ON THE MATHEMATICS TEST ONLY.*

The questions in each test are numbered, and the suggested answers for each question are lettered. On the answer document, the rows of ovals are numbered to match the questions, and the ovals in each row are lettered to correspond to the suggested answers.

For each question, first decide which answer is best. Next, locate on the answer document the row of ovals numbered the same as the question. Then, locate the oval in that row lettered the same as your answer. Finally, fill in the oval completely. Use a soft lead pencil and make your marks heavy and black. *DO NOT USE INK OR A MECHANICAL PENCIL.*

Mark only one answer to each question. If you change your mind about an answer, erase your first mark thoroughly before marking your new answer. For each question, make certain that you mark in the row of ovals with the same number as the question.

Only responses marked on your answer document will be scored. Your score on each test will be based only on the number of questions you answer correctly during the time allowed for that test. You will NOT be penalized for guessing. *IT IS TO YOUR ADVANTAGE TO ANSWER EVERY QUESTION EVEN IF YOU MUST GUESS.*

You may work on each test ONLY when your test supervisor tells you to do so. If you finish a test before time is called for that test, you should use the time remaining to reconsider questions you are uncertain about in that test. You may NOT look back to a test on which time has already been called, and you may NOT go ahead to another test. To do so will disqualify you from the examination.

Lay your pencil down immediately when time is called at the end of each test. You may NOT for any reason fill in or alter ovals for a test after time is called for that test. To do so will disqualify you from the examination.

Do not fold or tear the pages of your test booklet.

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ENGLISH TEST

45 Minutes—75 Questions

DIRECTIONS: In the five passages that follow, certain words and phrases are underlined and numbered. In the right-hand column, you will find alternatives for the underlined part. In most cases, you are to choose the one that best expresses the idea, makes the statement appropriate for standard written English, or is worded most consistently with the style and tone of the passage as a whole. If you think the original version is best, choose "NO CHANGE." In some cases, you will find in the right-hand column a question about the underlined part. You are to choose the best answer to the question.

You will also find questions about a section of the passage, or about the passage as a whole. These questions do not refer to an underlined portion of the passage, but rather are identified by a number or numbers in a box.

For each question, choose the alternative you consider best and fill in the corresponding oval on your answer document. Read each passage through once before you begin to answer the questions that accompany it. For many of the questions, you must read several sentences beyond the question to determine the answer. Be sure that you have read far enough ahead each time you choose an alternative.

PASSAGE I

My "Sister" Ligia

Every year my high school hosts international exchange students, those teenagers[1] join our senior class. Each student usually lives with the family of one of the seniors. I can recall students from Costa Rica, Italy, Norway, and Nigeria. Last year, one of our school's exchange students being[2] Ligia Antolinez, who[3] came from Bucaramanga, Colombia. I was a junior then.[4] I wasn't in any of Ligia's classes and didn't know her, but I saw her at school events, which are sometimes supported financially by local businesses.[5]

1. A. NO CHANGE
   B. students, he or she is invited to
   C. students who
   D. students they

2. F. NO CHANGE
   G. students was
   H. students, named
   J. students,

3. A. NO CHANGE
   B. whom
   C. which
   D. she who

4. F. NO CHANGE
   G. junior, therefore, so
   H. junior because
   J. junior, since

5. Given that all of the choices are true, which one provides the most relevant information with regard to the narrator's familiarity with Ligia?
   A. NO CHANGE
   B. had read a story about her in our school paper, which is written by students interested in journalism.
   C. saw her at school events and had read a story about her in our school paper.
   D. had read a story about her when I was checking our school paper for local movie listings.

GO ON TO THE NEXT PAGE.

About halfway through the school year, I learned that the exchange program was looking for a new home for Ligia. After a severe storm, the basement of her hosts (6) house had flooded, leaving two bedrooms unusable. The two "little brothers" of Ligia's host family, who had volunteered to move, to those bedrooms for a year, (7) had to be moved upstairs to the room Ligia was using. (8)

I told my parents about Ligia's problem, which needed to be solved. (9)

We agreed (10) that it would be fun to host a student from another country. My older sister had gotten married the summer before, so not only did we have a room for Ligia, and (11) we all admitted that the house had seemed too quiet lately.

The second half of my junior year was anything but quiet. Introduced by me to my favorite music, at top volume, (12) I started being taught by Ligia the most popular Colombian dance steps. (12) My father spoke fondly of the days before two teenagers taken (13) over the phone, the stereo, the kitchen—well, most of the house, really. My mother helped Ligia with her math homework, and Ligia taught Mom beginning Spanish. Both Ligia and I were studying French that year, and we practiced it at home. When we

6. F. NO CHANGE
   G. her hosts'
   H. Ligia's hosts
   J. Ligias hosts'

7. A. NO CHANGE
   B. volunteered to move to those bedrooms for a year
   C. volunteered to move to those bedrooms for a year,
   D. volunteered, to move to those bedrooms for a year,

8. F. NO CHANGE
   G. upstairs to the room Ligia was using, which had been freshly painted just that year.
   H. upstairs (it was a two-story house) to Ligia's room.
   J. OMIT the underlined portion and end the sentence with a period.

9. A. NO CHANGE
   B. problem, which was a dilemma.
   C. problem that needed a solution.
   D. problem.

10. Three of these choices indicate that the family felt confident about inviting Ligia to live in their home. Which choice does NOT do so?
    F. NO CHANGE
    G. decided
    H. knew
    J. supposed

11. A. NO CHANGE
    B. but
    C. while
    D. yet

12. F. NO CHANGE
    G. Introducing Ligia to my favorite music, at top volume, she started teaching me the most popular Colombian dance steps.
    H. Teaching me the most popular Colombian dance steps, Ligia was introduced by me to my favorite music, at top volume.
    J. I introduced Ligia to my favorite music, at top volume, and she started teaching me the most popular Colombian dance steps.

13. A. NO CHANGE
    B. took
    C. had took
    D. begun to take

planned a surprise anniversary party for my mom and dad, we did it all right under their noses, in French.

At the end of the year, Ligia had gone home to Colombia. This year I'm busy with senior activities and with a part-time job. I'm trying to save enough to go see my new sister next year. [15]

14. **F.** NO CHANGE
G. will have gone
H. went
J. goes

15. Which of the following true sentences, if inserted here, would best conclude the essay as well as maintain the positive tone established earlier in the essay?

A. I'm afraid of flying, but I think I'll be OK.
B. I'm eager to eventually join the workforce full-time.
C. I've been practicing my Spanish—and my dance steps.
D. Senior activities are a lot of fun.

PASSAGE II

Down at the Laundromat

[1] Down the street from the college, I attend, the Save-U Laundromat is always open, and someone is always there. [2] It was on a corner, across the street; from a drugstore on one side and a big park on the other. [3] The park isn't really a park at all but part of the grounds of a private boarding school. [4] But no one is ever around to enforce the threats, and in the summer everyone enjoys the benches, the grass, and the coolly magnificence of the shade trees. [5] Signs are posted all over the lawn threatening every sort of drastic action against trespassers who wrongfully enter the property. [21]

16. **F.** NO CHANGE
G. college, I attend
H. college I attend,
J. college I attend

17. **A.** NO CHANGE
B. is
C. had been
D. was located

18. **F.** NO CHANGE
G. street from,
H. street, from
J. street from

19. **A.** NO CHANGE
B. cool magnificence
C. magnificently cool
D. cool magnificent

20. **F.** NO CHANGE
G. those who trespass by walking on private property.
H. trespassers who ignore the signs and walk on the grass.
J. trespassers.

21. For the sake of logic and coherence, Sentence 5 should be placed:

A. where it is now.
B. before Sentence 1.
C. after Sentence 1.
D. after Sentence 3.

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The Save-U has a neon sign out front that says "Friendly 24-Hour Service," but as far as I can tell, no one really works there. The washers and dryers are lime green, and the paneling on the walls has been painted to match, although it was later varnished with some kind of artificial wood grain finish. [23] I often stare at that paneling when I don't have a magazine or newspaper to read and don't want to do my schoolwork. Deep in thought, I contemplate the competence of the laundromat's interior designer.

Some machines even provide a certain amount of sustenance and entertainment. This laundromat has three soda machines, two candy machines, two pinball machines, five video machines, and a machine that eats dollar bills and spits out too much or too few quarters.

There are many regular customers whose faces have become familiar—mostly older people from around the neighborhood. [26] Usually a crowd of thirteen-year-old kids that is gathered around the video machines, regardless of the time of day.

Imagining all these people, it is that I know they remain there even after I have left. I know that I could go in there anytime, and someone would look up from playing pinball

22. F. NO CHANGE
G. have been
H. were
J. are

23. At this point, the writer wants to add a sentence that would further describe the laundromat's paneling. Which of the following sentences would best accomplish this?
A. I guess the brush strokes are intended to resemble wood grain, but they don't.
B. I know that the varnish provides some protection for the wood paneling.
C. To me, it seems that lime green was a bizarre choice for an interior wall paint.
D. I imagine that the person who chose that color scheme must be a unique individual.

24. Which choice most effectively guides the reader from the preceding paragraph into this new paragraph?
F. NO CHANGE
G. The Save-U has to have friendly service because it is across the street from a park.
H. Maybe what the Save-U means by friendly service is an abundance of machines.
J. Washing machines are the Save-U's version of 24-hour service.

25. A. NO CHANGE
B. many or too fewer
C. many or too few
D. much or few

26. The writer is considering deleting the following phrase from the preceding sentence:

—mostly older people from around the neighborhood

If the writer were to make this deletion, the essay would primarily lose:
F. specific descriptive material.
G. detail providing a logical transition.
H. foreshadowing of the conclusion.
J. an understatement of important information.

27. A. NO CHANGE
B. kids who
C. kids, and they
D. kids

28. F. NO CHANGE
G. It being that I imagine all these people, they
H. Imagining all these people, they
J. I imagine that all these people

GO ON TO THE NEXT PAGE.

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or folding clothes and nods and smiles at me. It is
29

29. A. NO CHANGE
B. nod and smile
C. nodding and smiling
D. nods to smile

comforting to know that the Save-U Laundromat. And its
30
people are always nearby.

30. F. NO CHANGE
G. Laundromat. Its
H. Laundromat and that its
J. Laundromat and its

PASSAGE III

The following paragraphs may or may not be in the most logical order. Each paragraph is numbered in brackets, and question 45 will ask you to choose where Paragraph 1 should most logically be placed.

Bill Williams Brings America Home to Dinner

[1]

You have to admire the honesty of a company
who's slogan is "Just About the Best." Glory Foods'
31

31. A. NO CHANGE
B. whose
C. that's
D. that the

president, and founder Bill Williams, explains the unusual
32
slogan by admitting that while he knows that his foods

32. F. NO CHANGE
G. president, and founder Bill Williams
H. president and founder Bill Williams,
J. president and founder, Bill Williams,

can't beat the taste of real home cooking, it does come
33
very close.

33. A. NO CHANGE
B. it has
C. they do
D. and that they

[2]

Even as a child, Williams loved to prepare food, and
as a young adult, he refined his cooking skills at the
34

34. F. NO CHANGE
G. his cooking skills were refined
H. his skill in cooking was refined
J. the refinement of his cooking skills occurred

prestigiously acclaimed Culinary Institute of America.
35

35. A. NO CHANGE
B. famed, renowned, and notable
C. luscious
D. prestigious

In 1989, he came up with his idea for a line of Southern-
36
inspired cuisine, a time when there were no convenience
36
foods designed for African American consumers. Over the
next three years, he developed a line of products that

36. F. NO CHANGE
G. He came up with his idea for a line of Southern-inspired cuisine in 1989,
H. He came up in 1989, with his idea for a line of Southern-inspired cuisine,
J. The idea came to him in 1989, that a line of Southern-inspired cuisine should be marketed,

GO ON TO THE NEXT PAGE.

included canned greens, sweet potatoes, beans, and okra, as well as bottled hot sauce and cornbread mixes.

[3]

Eventually, Williams was ready to launch his products in grocery stores. Initially, Glory Foods were first (37) offered for sale in Ohio in 1992 and soon became available in neighboring states. Within a year, sales were twice the original projections. [38]

[4]

The company's African American focus is evident in all aspects of Glory Foods. The firm's headquarters are located in the same black neighborhood where Williams grew up, and the company helps to support several local community projects. The firm also employs African American professional advisers (39) and subcontractors whenever possible and contracts African American farmers to grow much of the produce that goes into Glory Foods. [40]

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[5]

The company's name reflects this African American focus as well. *Glory* is meant to evoke (41) both the exultant spirit of gospel churches and the

37. **A.** NO CHANGE
B. Glory Foods were
C. They were originally
D. At the outset, the earliest Glory Foods were

38. Given that all of the following sentences are true, which one would most effectively conclude this paragraph?
F. Bill Williams's company continues to refine the recipes of its products.
G. By 1995, Glory Foods were being distributed in twenty-two states.
H. Today, there are several other companies that target their products to African American consumers.
J. Bill Williams, however, sought the advice of food marketing experts.

39. **A.** NO CHANGE
B. professional, advisers,
C. professional advisers,
D. professional advisers;

40. The writer is considering deleting the phrases "whenever possible" and "much of" from the preceding sentence. If the writer were to delete these phrases, would the meaning of the sentence change?
F. Yes, because without these phrases, the reader would think that all of the subcontractors and farmers were African Americans.
G. Yes, because without these phrases, the reader would not know that the company made an attempt to employ African American contractors in the production of its goods.
H. No, because these phrases are examples of wordiness, and they can easily be eliminated from the sentence.
J. No, because although these phrases describe the subcontractors and the farmers and provide interesting detail, they are not essential to the meaning of the sentence.

41. **A.** NO CHANGE
B. at evoking
C. in evoking of
D. OMIT the underlined portion.

movie during the Civil War of the same name, which tells
42

the story of a black regiment. [43]

[6]

With twenty full-time employees in its administrative offices, Glory Foods has come a long way from its beginnings. America's dinner tables were the beneficiaries
44
of Bill Williams's drive, determination, and culinary expertise.

42. The best placement for the underlined portion would be:

F. where it is now.
G. after the word *name* (but before the comma).
H. after the word *story*.
J. after the word *regiment* (ending the sentence with a period).

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

> The actor Denzel Washington starred in the film, which earned several awards.

Should the writer make this addition?

A. Yes, because the additional detail explains why the film *Glory* was so inspiring.
B. Yes, because if readers understand that the film *Glory* earned awards, they will also understand why the company was named "Glory Foods."
C. No, because the information distracts the reader from the focus of the essay.
D. No, because the essay does not say if Bill Williams had ever met the actor Denzel Washington.

44. **F.** NO CHANGE
G. had been
H. would have been
J. are

Question 45 asks about the preceding passage as a whole.

45. For the sake of logic and coherence, Paragraph 1 should be placed:

A. where it is now.
B. after Paragraph 2.
C. after Paragraph 3.
D. after Paragraph 6.

PASSAGE IV

Pinball and Chance

[1]

Doesn't anyone play pinball anymore? I was disappointed the other day when I took my kids to a game arcade. Afterwards, I went to the movies. Not one of the
46

46. **F.** NO CHANGE
G. I made my way to the movie theater after that.
H. (The movie theater was my next stop.)
J. OMIT the underlined portion.

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many colorful machines with flashing lights were a pinball machine. Video games filled the room.
47

[2]

[1] I can understand why video games might seem more attractive than pinball. [2] Video screens which have been populated by movie stars, monsters, and heroes. [3] You can blow up cities, escape from dungeons, and battle all sorts of villains. [4] Pinball machines, on the other hand, are essentially all the same. [5] Some machines are bigger and fancier than others, but the object of pinball never changes: you have to keep a steel ball in play long enough to rack up a high score and win a free game. [49]
48

[3]

The attractions of video games, however, are superficial and short-lived. As you guide your character through the game's challenges, you come to know exactly how the machine that's built to last will respond to your every move. He or she learns where the hazards lurk and the special weapons are hidden. Pinball, though, can't be predicted with such accuracy. You never know when the ball will drain straight down the middle, out of reach of both flippers. Then again, you can sometimes get lucky, and a ball you thought was lost, will inexplicably bounce back into play.
50 51 52 53

47. **A.** NO CHANGE
B. was a
C. were an actual
D. would have been an actual

48. **F.** NO CHANGE
G. that are
H. are
J. OMIT the underlined portion.

49. For the sake of the logic and coherence of Paragraph 2, Sentence 4 should be:
A. placed where it is now.
B. placed after Sentence 1.
C. placed after Sentence 5.
D. OMITTED, because the paragraph focuses only on video games.

50. **F.** NO CHANGE
G. machine, which is constructed durably,
H. machine, which is built to last,
J. machine

51. **A.** NO CHANGE
B. We learn
C. You learn
D. People learned

52. Which of the following alternatives to the underlined portion would be LEAST acceptable?
F. therefore,
G. however,
H. by contrast,
J. on the contrary,

53. **A.** NO CHANGE
B. lost will
C. lost, will,
D. lost will,

[4]

It is the element of chance that makes pinball more interesting than video games. Most video games are designed so that your main opponent in these video games is a predictable computer program. Once you have mastered a game, the challenge is gone, and you must look for a new game to conquer. After you learn the new game, you get bored again. The cycle keeps repeating. But in pinball, you have three factors to consider: you, the machine, and chance, which is sometimes your enemy sometimes your ally. No matter how many games you play on any pinball machine, the various times of each game is different. That's what makes pinball a continually challenge.

54. Which choice would most effectively and appropriately lead the reader from the topic of Paragraph 3 to that of Paragraph 4?

F. NO CHANGE
G. Pinball does share certain similarities with video games.
H. Pinball, although less challenging than video games, can still be fun to play.
J. Video games do generally evolve into subsequent editions or enhanced versions.

55. **A.** NO CHANGE
B. during these video games
C. in video games
D. OMIT the underlined portion.

56. **F.** NO CHANGE
G. you then looked
H. one then looks
J. one must look

57. **A.** NO CHANGE
B. enemy,
C. enemy;
D. enemy, and,

58. **F.** NO CHANGE
G. each
H. each single unique
J. every single time, each

59. **A.** NO CHANGE
B. continuously
C. continual
D. continue

Question 60 asks about the preceding passage as a whole.

60. Suppose the writer had chosen to write an essay that indicates that pinball is superior to video games. Would this essay fulfill the writer's goal?

F. No, because the writer admits that video games have become more popular than pinball machines.
G. No, because the writer states that video games are designed to challenge the skills of the player.
H. Yes, because the writer claims that pinball games require luck and are more visually attractive than video games.
J. Yes, because the writer suggests that it is more difficult to become skilled at a pinball machine than at a video game.

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PASSAGE V

When a Computer Gets Sick . . .

[1]

Imagine sitting in front of a computer monitor, filling the screen with your mind's jumbled thoughts. Tomorrow's assignment is slowly materializing before your eyes. Suddenly, without warning, each of the letters, in front of you tumbles (61) to the bottom of the screen. Is this a bad dream? Not exactly. The computer is probably sick, unless (62) the diagnosis may be that the computer has a virus.

[2]

Analogous to a biological virus that takes over a living cell, a computer virus is a program, or set of instructions, that invades a computer either to create mischief or do real damage. The type of computer virus mentioned above is more mischievous than harmful. Eventually, the letters reorder themselves on the screen. Not all viruses however, (63) straighten themselves out.

[3]

Computer viruses range from being temporary annoyances to permanently destroying data. (64) Computer vandals rig these viruses to go off at a preset time. These bombs can permanently destroy data, and that can be disastrous to the operation of a computer. (65)

61. **A.** NO CHANGE
B. letters in front of you tumbles,
C. letters in front of you, tumbles
D. letters in front of you tumbles

62. **F.** NO CHANGE
G. except
H. and
J. as if

63. **A.** NO CHANGE
B. viruses; however,
C. viruses, however
D. viruses, however,

64. Which choice is the most effective first sentence of Paragraph 3?
F. NO CHANGE
G. Among the more serious viruses are those referred to as "bombs."
H. Most people would agree that they'd rather have a computer virus than a virus that puts them in bed for a week.
J. Despite technological advances, computers are still fragile devices in many ways.

65. **A.** NO CHANGE
B. a devastative disaster to the operation
C. devastation to the operating
D. possibly disastrous to operating

GO ON TO THE NEXT PAGE.

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[4]

Detection programs are available that
66

searches for and then destroys computer viruses.
67
Evidence that some software writers have played

up the medical analogy being found in the names of their
68

programs: Vaccine, Checkup, Antitoxin, and Disinfectant.
69

[5]

As with all diseases, the best cure is prevention.
70
Experts suggest that you avoid borrowing computer

disks because they might contain viruses. They

warn that many of these viruses are quite sophisticated in
71
their programming. They also say that you should make
71
copies of your computer files, so that if a virus does strike

and you must delete your infected files, you will at least

have backup copies. Experts also point out that using the

Internet and World Wide Web has led to new risks of

infection in the form of viruses hidden in programs

downloaded, or copied, from these resources.

[6]

If there is a virus in your system, you had hope that it

better responds to the appropriate treatment and therapy.
72
Otherwise, you could be in for a long night at the

computer.

66. **F.** NO CHANGE
G. Detection programs that detect computer viruses
H. Computer viruses can be found by detection programs that
J. Detection programs that find computer viruses

67. **A.** NO CHANGE
B. searches for and destroys
C. search for and destroys
D. search for and destroy

68. **F.** NO CHANGE
G. analogy is
H. analogy, having been
J. analogy,

69. **A.** NO CHANGE
B. programs;
C. programs
D. programs,

70. **F.** NO CHANGE
G. Similarly to
H. In the same way as
J. According with

71. In this paragraph, the writer intends to recommend a number of specific ways to protect computer data against viruses. This is to be the second recommendation. Given that all of the choices are true, which one would best accomplish the writer's intention?

A. NO CHANGE
B. propose adding software that checks the spelling in the papers you write on your computer.
C. advise you to give your system frequent checkups with antivirus programs.
D. suggest that in order to protect your computer, you must be aware of the various ways to prevent viruses.

72. The best placement for the underlined portion would be:

F. where it is now.
G. after the word *your*.
H. after the word *had*.
J. after the word *responds*.

GO ON TO THE NEXT PAGE.

Questions 73–75 ask about the preceding passage as a whole.

73. Upon reviewing this essay and realizing that some information has been left out, the writer composes the following sentence, incorporating that information:

> Names like these suggest that the problem is serious.

The most logical and effective place to add this sentence would be after the last sentence of Paragraph:

A. 2.
B. 3.
C. 4.
D. 5.

74. Paragraphs 1, 5, and 6 of this essay are written in the second person (*you, your*). If these paragraphs were revised so that the second-person pronouns were replaced with the pronouns *one* and *one's,* the essay would primarily:

F. gain a more polite and formal tone appropriate to the purpose of the essay.
G. gain accessibility by speaking to a broader and more inclusive audience.
H. lose the sense of directly addressing and advising the reader.
J. lose the immediacy of its setting in terms of time and place.

75. Suppose the writer had decided to write an essay discussing the moral and ethical consequences of programming a computer virus to tamper with a computer system. Would this essay successfully fulfill the writer's goal?

A. Yes, because the essay explains the moral and ethical consequences when a virus enters a computer system.
B. Yes, because the essay details the process of ridding a computer system of viruses, which helps the reader understand the consequences of programming computer viruses.
C. No, because the essay does not explain how to program a virus, so the reader has no basis for making a moral or ethical judgment.
D. No, because the essay limits itself to describing computer viruses and the basic precautions to be taken against them.

END OF TEST 1

STOP! DO NOT TURN THE PAGE UNTIL TOLD TO DO SO.

MATHEMATICS TEST

60 Minutes—60 Questions

DIRECTIONS: Solve each problem, choose the correct answer, and then fill in the corresponding oval on your answer document.

Do not linger over problems that take too much time. Solve as many as you can; then return to the others in the time you have left for this test.

You are permitted to use a calculator on this test. You may use your calculator for any problems you choose, but some of the problems may best be done without using a calculator.

Note: Unless otherwise stated, all of the following should be assumed.

1. Illustrative figures are NOT necessarily drawn to scale.
2. Geometric figures lie in a plane.
3. The word *line* indicates a straight line.
4. The word *average* indicates arithmetic mean.

DO YOUR FIGURING HERE.

1. Kaya ran $1\frac{2}{5}$ miles on Monday and $2\frac{1}{3}$ miles on Tuesday. What was the total distance, in miles, Kaya ran during those 2 days?

A. $3\frac{2}{15}$
B. $3\frac{3}{8}$
C. $3\frac{2}{5}$
D. $3\frac{7}{15}$
E. $3\frac{11}{15}$

2. $3x^3 \cdot 2x^2y \cdot 4x^2y$ is equivalent to:

F. $9x^7y^2$
G. $9x^{12}y^2$
H. $24x^7y^2$
J. $24x^{12}y$
K. $24x^{12}y^2$

3. Mr. Dietz is a teacher whose salary is $22,570 for this school year, which has 185 days. In Mr. Dietz's school district, substitute teachers are paid $80 per day. If Mr. Dietz takes a day off without pay and a substitute teacher is paid to teach Mr. Dietz's classes, how much less does the school district pay in salary by paying a substitute teacher instead of paying Mr. Dietz for that day?

A. $ 42
B. $ 80
C. $ 97
D. $105
E. $122

4. So far, a student has earned the following scores on four 100-point tests this grading period: 65, 73, 81, and 82. What score must the student earn on the fifth and last 100-point test of the grading period to earn an average test grade of 80 for the 5 tests?

F. 75
G. 76
H. 78
J. 99
K. The student cannot earn an average of 80.

GO ON TO THE NEXT PAGE.

DO YOUR FIGURING HERE.

5. The oxygen saturation level of a river is found by dividing the amount of dissolved oxygen the river water currently has per liter by the dissolved oxygen capacity per liter of the water and then converting to a percent. If the river currently has 7.3 milligrams of dissolved oxygen per liter of water and the dissolved oxygen capacity is 9.8 milligrams per liter, what is the oxygen saturation level, to the nearest percent?

A. 34%
B. 70%
C. 73%
D. 74%
E. 98%

6. A rectangular lot that measures 150 ft by 200 ft is completely fenced. What is the approximate length, in feet, of the fence?

F. 300
G. 350
H. 400
J. 700
K. 1,400

7. The expression $a[b + (c - d)]$ is equivalent to:

A. $ab + ac - ad$
B. $ab + ac + ad$
C. $ab + ac - d$
D. $ab + c + d$
E. $ab + c - d$

8. If $4x + 3 = 9x - 4$, then $x = ?$

F. $\frac{7}{5}$

G. $\frac{5}{7}$

H. $\frac{7}{13}$

J. $\frac{1}{5}$

K. $-\frac{1}{5}$

9. What 2 numbers should be placed in the blanks below so that the difference between consecutive numbers is the same?

17, ____, ____, 41

A. 23, 29
B. 24, 34
C. 25, 33
D. 26, 35
E. 27, 31

GO ON TO THE NEXT PAGE.

DO YOUR FIGURING HERE.

10. If x is a real number such that $x^3 = 64$, then $x^2 + \sqrt{x} = ?$

F. 4
G. 10
H. 18
J. 20
K. 47

11. A formula for the volume V of a sphere with radius r is $V = \frac{4}{3}\pi r^3$. If the radius of a spherical rubber ball is $1\frac{1}{4}$ inches, what is its volume to the nearest cubic inch?

A. 5
B. 7
C. 8
D. 16
E. 65

12. If a marble is randomly chosen from a bag that contains exactly 8 red marbles, 6 blue marbles, and 6 white marbles, what is the probability that the marble will NOT be white?

F. $\frac{3}{4}$

G. $\frac{3}{5}$

H. $\frac{4}{5}$

J. $\frac{3}{10}$

K. $\frac{7}{10}$

13. The number of students participating in fall sports at a certain high school can be shown by the following matrix.

$$\begin{array}{cccc} \text{Tennis} & \text{Soccer} & \text{Cross-Country} & \text{Football} \\ [\ 40 & 60 & 80 & 80\ ] \end{array}$$

The athletic director estimates the ratio of the number of sports awards that will be earned to the number of students participating with the following matrix.

$$\begin{array}{r} \text{Tennis} \\ \text{Soccer} \\ \text{Cross-Country} \\ \text{Football} \end{array} \begin{bmatrix} 0.3 \\ 0.4 \\ 0.2 \\ 0.5 \end{bmatrix}$$

Given these matrices, what is the athletic director's estimate for the number of sports awards that will be earned for these fall sports?

A. 80
B. 88
C. 91
D. 92
E. 99

GO ON TO THE NEXT PAGE.

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DO YOUR FIGURING HERE.

Use the following information to answer questions 14–15.

The following chart shows the current enrollment in all the mathematics classes offered by Eastside High School.

Course title	Section	Period	Enrollment
Pre-Algebra	A	3	23
Algebra I	A	2	24
	B	3	25
	C	4	29
Geometry	A	1	21
	B	2	22
Algebra II	A	4	28
Pre-Calculus	A	6	19

14. What is the average number of students enrolled per section in Algebra I ?

F. 24
G. 25
H. 26
J. 27
K. 29

15. The school owns 2 classroom sets of 30 calculators each, which students are required to have during their mathematics class. There are 2 calculators from one set and 6 calculators from the other set that are not available for use by the students because these calculators are being repaired. For which of the following class periods, if any, are there NOT enough calculators available for each student to use a school-owned calculator without having to share?

A. Period 2 only
B. Period 3 only
C. Period 4 only
D. Periods 3 and 4 only
E. There are enough calculators for each class period.

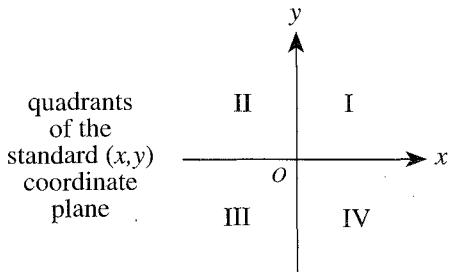
16. What expression must the center cell of the table below contain so that the sums of each row, each column, and each diagonal are equivalent?

x	$8x$	$-3x$
$-2x$	?	$6x$
$7x$	$-4x$	$3x$

F. $6x$
G. $4x$
H. $2x$
J. $-2x$
K. $-4x$

DO YOUR FIGURING HERE.

17. Point A is to be graphed in a quadrant, not on an axis, of the standard (x,y) coordinate plane below.



If the x-coordinate and the y-coordinate of point A are to have opposite signs, then point A *must* be located in:

A. Quadrant II only.
B. Quadrant IV only.
C. Quadrant I or III only.
D. Quadrant I or IV only.
E. Quadrant II or IV only.

18. Kareem has 4 sweaters, 6 shirts, and 3 pairs of slacks. How many distinct outfits, each consisting of a sweater, a shirt, and a pair of slacks, can Kareem select?

F. 13
G. 36
H. 42
J. 72
K. 216

19. At a refinery, 100,000 tons of sand are required to produce each 60,000 barrels of a tarry material. How many tons of sand are required to produce 3,000 barrels of this tarry material?

A. 5,000
B. 18,000
C. 20,000
D. 40,000
E. 50,000

20. If a rectangle measures 54 meters by 72 meters, what is the length, in meters, of the diagonal of the rectangle?

F. 48
G. 63
H. 90
J. 126
K. 252

GO ON TO THE NEXT PAGE.

DO YOUR FIGURING HERE.

21. For all positive integers x, y, and z, which of the following expressions is equivalent to $\frac{x}{y}$?

A. $\frac{x \cdot z}{y \cdot z}$

B. $\frac{x \cdot x}{y \cdot y}$

C. $\frac{y \cdot x}{x \cdot y}$

D. $\frac{x - z}{y - z}$

E. $\frac{x + z}{y + z}$

22. What is the slope-intercept form of $8x - y - 6 = 0$?

F. $y = -8x - 6$
G. $y = -8x + 6$
H. $y = 8x - 6$
J. $y = 8x + 6$
K. $y = 6x - 8$

23. Which of the following is a solution to the equation $x^2 - 36x = 0$?

A. 72
B. 36
C. 18
D. 6
E. −6

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24. For right triangle $\triangle RST$ shown below, what is tan R ?

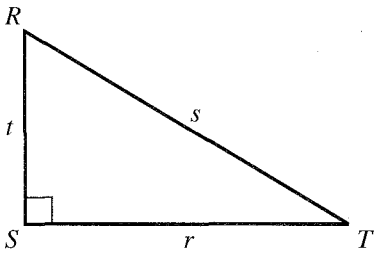
F. $\frac{r}{s}$

G. $\frac{r}{t}$

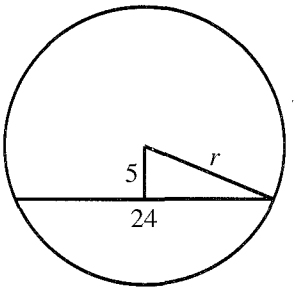
H. $\frac{t}{r}$

J. $\frac{t}{s}$

K. $\frac{s}{t}$



25. A chord 24 inches long is 5 inches from the center of a circle, as shown below. What is the radius of the circle, to the nearest tenth of an inch?



A. 29.0
B. 24.5
C. 16.9
D. 13.0
E. 10.9

Practice ACT Tests

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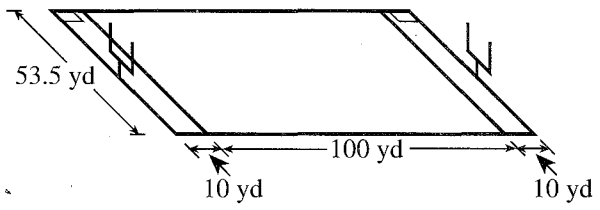
DO YOUR FIGURING HERE.

26. The length L, in meters, of a spring is given by the equation $L = \frac{2}{3}F + 0.03$, where F is the applied force in newtons. What force, in newtons, must be applied for the spring's length to be 0.18 meters?

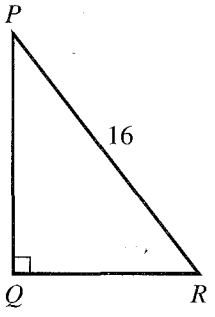
F. 0.13
G. 0.15
H. 0.225
J. 0.255
K. 0.27

27. After a snowstorm, city workers removed an estimated 10,000 cubic yards of snow from the downtown area. If this snow were spread in an even layer over the entire rectangular football field shown below, about how many yards deep would the layer of snow be?



A. Less than 1
B. Between 1 and 2
C. Between 2 and 3
D. Between 3 and 4
E. More than 4

28. The hypotenuse of the right triangle $\triangle PQR$ shown below is 16 feet long. The sine of $\angle P$ is $\frac{3}{5}$. About how many feet long is $\overline{QR}$?

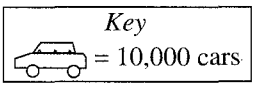


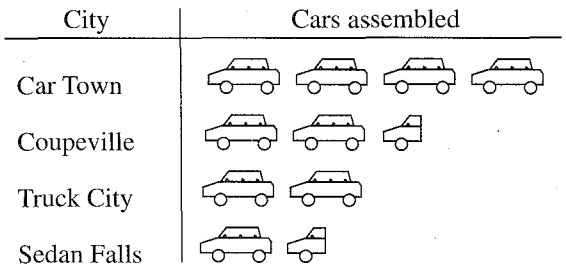
F. 8.0
G. 9.6
H. 12.4
J. 14.3
K. 15.4

GO ON TO THE NEXT PAGE.

DO YOUR FIGURING HERE.

29. The graph below shows the number of cars assembled last year in 4 cities, to the nearest 5,000 cars. According to the graph, what fraction of the cars assembled in all 4 cities were assembled in Coupeville?





A. $\frac{1}{5}$

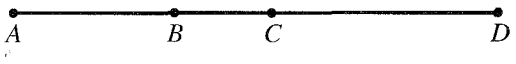
B. $\frac{1}{4}$

C. $\frac{3}{11}$

D. $\frac{3}{10}$

E. $\frac{1}{3}$

30. Points B and C lie on $\overline{AD}$ as shown below. The length of $\overline{AD}$ is 30 units; $\overline{AC}$ is 16 units long; and $\overline{BD}$ is 20 units long. How many units long, if it can be determined, is $\overline{BC}$?



F. 4
G. 6
H. 10
J. 14
K. Cannot be determined from the given information

31. What is the x-coordinate of the point in the standard (x,y) coordinate plane at which the 2 lines $y = 2x + 6$ and $y = 3x + 4$ intersect?

A. 1
B. 2
C. 4
D. 6
E. 10

DO YOUR FIGURING HERE.

32. For all pairs of real numbers M and V where $M = 3V + 6$, $V = ?$

F. $\frac{M}{3} - 6$

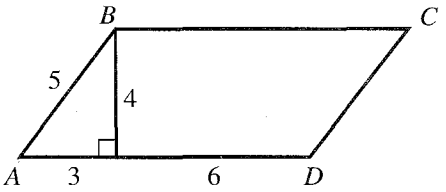
G. $\frac{M}{3} + 6$

H. $3M - 6$

J. $\frac{M-6}{3}$

K. $\frac{M+6}{3}$

33. Parallelogram $ABCD$, with dimensions in inches, is shown in the diagram below. What is the area of the parallelogram, in square inches?



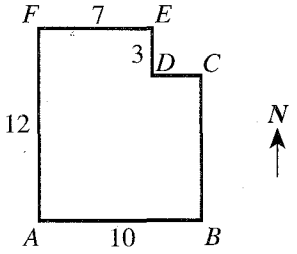
A. 18
B. 36
C. 39
D. 45
E. 72

34. If $a = b + 2$, then $(b - a)^4 = ?$

F. −16
G. −8
H. 1
J. 8
K. 16

35. A park has the shape and dimensions in blocks given below. A water fountain is located halfway between point B and point D. Which of the following is the location of the water fountain from point A ?

(Note: The park's borders run east-west or north-south.)



A. $3\frac{1}{2}$ blocks east and 6 blocks north

B. 5 blocks east and $4\frac{1}{2}$ blocks north

C. 5 blocks east and 6 blocks north

D. $8\frac{1}{2}$ blocks east and $4\frac{1}{2}$ blocks north

E. 9 blocks east and $7\frac{1}{2}$ blocks north

GO ON TO THE NEXT PAGE.

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DO YOUR FIGURING HERE.

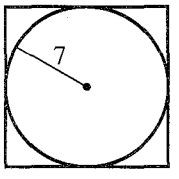
36. The larger of two numbers exceeds twice the smaller number by 8. The sum of twice the larger and 3 times the smaller number is 65. If x is the smaller number, which equation below determines the correct value of x ?

F. $3(2x + 8) + 2x = 65$
G. $3(2x - 8) + 2x = 65$
H. $(4x + 8) + 3x = 65$
J. $2(2x + 8) + 3x = 65$
K. $2(2x - 8) + 3x = 65$

37. Members of the fire department lean a 30-foot ladder against a building. The side of the building is perpendicular to the level ground so that the base of the ladder is 10 feet away from the base of the building. To the nearest foot, how far up the building does the ladder reach?

A. 10
B. 20
C. 28
D. 31
E. 40

38. A square is circumscribed about a circle of 7-foot radius, as shown below. What is the area of the square, in square feet?

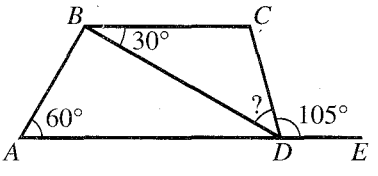


F. 49
G. 56
H. 98
J. 49π
K. 196

39. The ratio of the side lengths for a triangle is exactly 12:14:15. In a second triangle similar to the first, the shortest side is 8 inches long. To the nearest tenth of an inch, what is the length of the longest side of the second triangle?

A. 11.0
B. 10.0
C. 9.3
D. 6.4
E. Cannot be determined from the given information

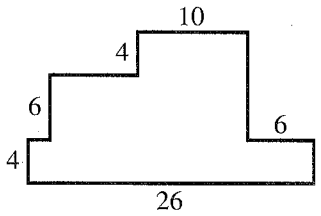
40. In the figure below, $ABCD$ is a trapezoid, E lies on $\overleftrightarrow{AD}$, and angle measures are as marked. What is the measure of $\angle BDC$?



F. 15°
G. 25°
H. 30°
J. 35°
K. 45°

DO YOUR FIGURING HERE.

41. In the figure shown below, each pair of intersecting line segments meets at a right angle, and all the lengths given are in inches. What is the perimeter, in inches, of the figure?



A. 40
B. 52
C. 56
D. 66
E. 80

42. Of the 804 graduating seniors in a certain high school, approximately $\frac{2}{5}$ are going to college and approximately $\frac{1}{4}$ of those going to college are going to a state university. Which of the following is the closest estimate for how many of the graduating seniors are going to a state university?

F. 80
G. 90
H. 160
J. 200
K. 320

43. If x and y are positive integers such that the greatest common factor of x^2y^2 and xy^3 is 45, then which of the following could y equal?

A. 45
B. 15
C. 9
D. 5
E. 3

44. If 115% of a number is 460, what is 75% of the number?

F. 280
G. 300
H. 320
J. 345
K. 400

45. What is the distance in the standard (x,y) coordinate plane between the points (1,0) and (0,5) ?

A. 4
B. 6
C. 16
D. 36
E. $\sqrt{26}$

GO ON TO THE NEXT PAGE.

DO YOUR FIGURING HERE.

46. The ratio of the radii of two circles is 4:9. What is the ratio of their circumferences?

F. 2:3
G. 4:9
H. 16:81
J. $4:8\pi$
K. $9:18\pi$

47. A circle in the standard (x,y) coordinate plane is tangent to the x-axis at 5 and tangent to the y-axis at 5. Which of the following is an equation of the circle?

A. $x^2 + y^2 = 5$
B. $x^2 + y^2 = 25$
C. $(x-5)^2 + (y-5)^2 = 5$
D. $(x-5)^2 + (y-5)^2 = 25$
E. $(x+5)^2 + (y+5)^2 = 25$

48. In the complex numbers, where $i^2 = -1$,

$$\frac{1}{1+i} \cdot \frac{1-i}{1-i} = ?$$

F. $i - 1$

G. $1 + i$

H. $1 - i$

J. $\frac{1-i}{2}$

K. $\frac{1+i}{2}$

49. Which of the following statements describes the total number of dots in the first n rows of the triangular arrangement illustrated below?

•	1st row
• • •	2nd row
• • • • •	3rd row
• • • • • • •	4th row
• • • • • • • • •	5th row
	⋮

A. This total is always equal to 25 regardless of the number of rows.
B. This total is equal to twice the number of rows.
C. This total is equal to 5 times the number of rows.
D. This total is equal to the square of the number of rows.
E. There is no consistent relationship between this total and the number of rows.

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DO YOUR FIGURING HERE.

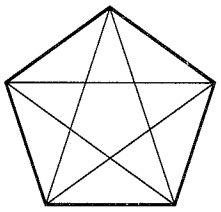
50. After polling a class of 20 music students by a show of hands, you find that 8 students play the guitar and 9 students play the piano. Given that information, what is the minimum number of students in this music class who play both the guitar and the piano?

F. 0
G. 1
H. 8
J. 9
K. 17

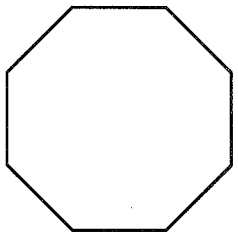
51. Which of the following is the set of all real numbers x such that $x + 3 > x + 5$?

A. The empty set
B. The set containing all real numbers
C. The set containing all negative real numbers
D. The set containing all nonnegative real numbers
E. The set containing only zero

52. Pentagons have 5 diagonals, as illustrated below.



How many diagonals does the octagon below have?



F. 8
G. 16
H. 20
J. 30
K. 40

53. Douglas wants to draw a circle graph showing the favorite colors of his friends. When he polled his friends asking each their favorite color, 25% of his friends said red; 30% of his friends said blue; 20% of his friends said green; 10% of his friends said purple; and the remaining friends said colors other than red, blue, green, and purple. The colors other than red, blue, green, and purple will be grouped together in an Other sector. What will be the degree measure of the Other sector?

A. 108°
B. 54°
C. 27°
D. 15°
E. 10°

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54. If $\sin\theta = -\frac{3}{5}$ and $\pi < \theta < \frac{3\pi}{2}$, then $\tan\theta = ?$

DO YOUR FIGURING HERE.

F. $-\frac{5}{4}$

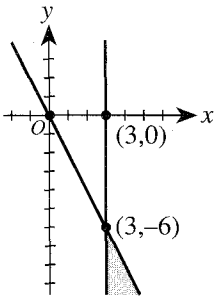
G. $-\frac{3}{4}$

H. $-\frac{3}{5}$

J. $\frac{3}{4}$

K. $\frac{4}{5}$

55. Which of the following systems of inequalities is represented by the shaded region of the graph below?



A. $y \le -2x$ and $x \ge 3$
B. $y \le -2x$ or $x \ge 3$
C. $y \ge -2x$ and $x \ge 3$
D. $y \ge -2x$ or $x \ge 3$
E. $y \ge -2x$ and $x \le 3$

56. If $f(x) = x^2 - 2$, then $f(x + h) = ?$

F. $x^2 + h^2$
G. $x^2 - 2 + h$
H. $x^2 + h^2 - 2$
J. $x^2 + 2xh + h^2$
K. $x^2 + 2xh + h^2 - 2$

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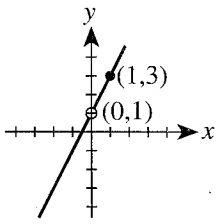
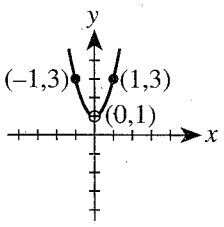
DO YOUR FIGURING HERE.

57. Which of the following is the graph, in the standard (x,y) coordinate plane, of $y = \frac{2x^2 + x}{x}$?

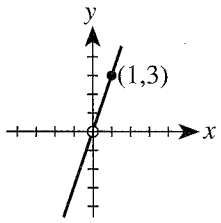
A.



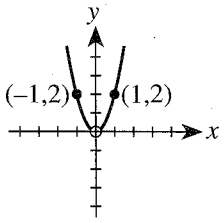
D.



B.



E.



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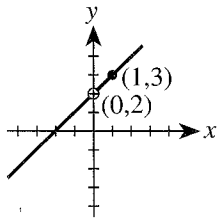

58. A triangle, $\triangle ABC$, is reflected across the x-axis to have the image $\triangle A'B'C'$ in the standard (x,y) coordinate plane; thus, A reflects to A'. The coordinates of point A are (c,d). What are the coordinates of point A' ?

F. $(c,-d)$
G. $(-c, d)$
H. $(-c,-d)$
J. (d, c)
K. Cannot be determined from the given information

59. If $x = 2t - 9$ and $y = 5 - t$, which of the following expresses y in terms of x ?

A. $y = \frac{1-x}{2}$

B. $y = \frac{19-x}{2}$

C. $y = 14 - 2x$

D. $y = 5 - x$

E. $y = 1 - x$

GO ON TO THE NEXT PAGE.

DO YOUR FIGURING HERE.

60. What is $\sin \frac{\pi}{12}$ given that $\frac{\pi}{12} = \frac{\pi}{3} - \frac{\pi}{4}$ and that $\sin(\alpha - \beta) = (\sin \alpha)(\cos \beta) - (\cos \alpha)(\sin \beta)$?

(Note: You may use the following table of values.)

θ	$\sin \theta$	$\cos \theta$
$\frac{\pi}{6}$	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$
$\frac{\pi}{4}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{2}}{2}$
$\frac{\pi}{3}$	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$

F. $\frac{1}{4}$

G. $\frac{1}{2}$

H. $\frac{\sqrt{3}-2}{4}$

J. $\frac{\sqrt{3}-\sqrt{2}}{2}$

K. $\frac{\sqrt{6}-\sqrt{2}}{4}$

END OF TEST 2

STOP! DO NOT TURN THE PAGE UNTIL TOLD TO DO SO.

DO NOT RETURN TO THE PREVIOUS TEST.

READING TEST

35 Minutes—40 Questions

DIRECTIONS: There are four passages in this test. Each passage is followed by several questions. After reading a passage, choose the best answer to each question and fill in the corresponding oval on your answer document. You may refer to the passages as often as necessary.

Passage I

PROSE FICTION: This passage is adapted from the short story "Elba" by Marly Swick (©1991 by the University of Iowa). Fran is the narrator of the story.

Mother, who wanted to keep her, always thought of her as some wild little bird, but I knew she was a homing pigeon. I knew that at some point in her flight path, sooner or later, she would make a U-turn. A sort of human boomerang. So even though I had long since stopped expecting it, I was not surprised when I walked down the gravel drive to the mailbox, which I'd painted papaya yellow to attract good news, and found the flimsy envelope with the Dallas postmark. I didn't know a soul in Dallas, or Texas for that matter, but the handwriting reminded me of someone's. My own.

I walked back inside the house.

"Still raining?" Mother asked. She was sitting in her new electric wheelchair in front of the TV, painting her fingernails a neon violet.

"Just let up," I said. "Sun's poking through. You know anyone in Dallas, Mother?"

"Not so as I recall." She dabbed at her pinky with a cottonball. Mother was vain about her hands. I was used to how she looked now, but I noticed people staring in the doctor's waiting room. She had lost some weight and most of her hair to chemotherapy, and I guess people were startled to see these dragon-lady nails on a woman who looked as if she should be lying in satin with some flowers on her chest.

"Why do you ask?" she said.

I opened the envelope and a picture fluttered into my lap. It was a Polaroid of a sweet-faced blond holding a newborn baby in a blue blanket. Before I even read the letter I knew. I knew how those Nazis feel when suddenly, after twenty or thirty uneventful years, they are arrested walking down some sunny street in Buenos Aires. It's the shock of being found after waiting so long.

"What's that?" Mother said.

I wheeled her around to face me and handed her the Polaroid. She studied it for a minute and then looked up, speechless for once, waiting for me to set the tone.

"That's her," I said. "Her name's Linda Rose Caswell."

We looked at the picture again. The blond woman was seated on a flowered couch, her wavy hair just grazing the edge of a dime-a-dozen seascape in a cheap gilt frame.

Mother pointed to the envelope. "What's she say?"

I unfolded the letter, a single page neatly written.

"She says she's had my name and address for some time but wanted to wait to contact me until after the birth. The baby's name is Blake and he weighs eight pounds, eight ounces, and was born by cesarean. She says they are waiting and hoping to hear back from me soon."

"That's it?"

I nodded and handed her the letter. It was short and businesslike, but I could see the ghosts of all the long letters she must have written and crumpled into the wastebasket.

"I guess that makes you a great-grandmother," I said.

"What about you?" she snorted, pointing a Jungle Orchid fingernail at me. "You're a grandmother."

We shook our heads in disbelief. I sat silently, listening to my brain catch up with my history. Forty years old and I felt as if I had just shaken hands with Death. I suppose it's difficult for any woman to accept that she's a grandmother, but in the normal order of things, you have ample time to adjust to the idea. You don't get a snapshot in the mail one day from a baby girl you gave up twenty-four years ago saying, "Congratulations, you're a grandma!"

"It's not fair," I said. "I don't even feel like a *mother*."

"Well, here's the living proof." Mother tapped her nail against the glossy picture. "She looks just like you. Only her nose is more aristocratic."

GO ON TO THE NEXT PAGE.

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"I'm going to work." My knees cracked when I stood up. "You be all right here?"

Mother nodded, scrutinizing the picture in her lap. "You going to write to her?"

"Of course I am," I bristled. "I may be some things, but I am not rude."

"You going to invite them here? Her and the baby?" She swiveled her eyes sideways at me.

"I haven't thought that far," I said.

"Well, don't put it off." She slid her eyes back to the television. "She's been waiting twenty-five years. You worried she's going to be trouble or ask for money? For all we know, she's married to a brain surgeon with his and her Cadillacs."

"She didn't mention any husband at all," I said, getting drawn into it despite myself.

"Maybe you're worried she'll be disappointed in you," she said. "You know, that she's had this big fantasy for all these years that maybe you were Grace Kelly or Margaret Mead and who could live up to that? No one. But you don't have to, Fran, that's the thing. You're her flesh-and-blood mother and that's enough. That's all it'll take."

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1. Fran would most likely agree with which of the following statements about her relationship with Linda Rose?
   - **A.** Their lives are still connected despite long separations of time and distance.
   - **B.** They have built up too much resentment toward each other to have a good relationship now.
   - **C.** Fran's dreams of a perfect daughter will interfere with any real relationship she might have with Linda Rose.
   - **D.** The two of them have enough in common that it won't be difficult for them to get close.

2. Fran's mother can most accurately be characterized as:
   - **F.** arrogant and cruel.
   - **G.** strong-willed and caring.
   - **H.** friendly but withdrawn.
   - **J.** loving but embittered.

3. Which of the following statements does NOT describe one of Fran's reactions to the news that she is a grandmother?
   - **A.** She wishes she had had time to prepare for the news.
   - **B.** She looks forward to inviting Linda Rose and her son, Blake, over for a visit.
   - **C.** She feels suddenly older now that the label of grandmother applies to her.
   - **D.** She protests that this change in her life is unfair.

4. The main point of the first paragraph is that:
   - **F.** Fran believed Linda Rose would someday try to contact her.
   - **G.** Linda Rose acted like a wild bird when she was young.
   - **H.** Fran finds the arrival of a letter from Linda Rose surprising.
   - **J.** Linda Rose's handwriting reminds Fran of her own handwriting.

5. The main point of the last paragraph is that Fran's mother believes:
   - **A.** Linda Rose has few illusions about Fran.
   - **B.** Linda Rose might cause trouble or ask for money.
   - **C.** Fran shouldn't worry about disappointing Linda Rose.
   - **D.** Fran shouldn't write to Linda Rose until Fran is emotionally prepared.

6. According to the passage, when Fran looks at her mother, Fran feels:
   - **F.** surprised by how weak and old her mother looks.
   - **G.** embarrassed by the gaudy colors of nail polish her mother uses.
   - **H.** pity that so many people stare at her mother in public.
   - **J.** accustomed to her mother's frailness and unusual fingernails.

7. Which of the following statements most accurately expresses Fran's feelings when she hands her mother the letter from Linda Rose?
   - **A.** Fran is disappointed about getting such a short letter after so many years of no news from Linda Rose.
   - **B.** Fran welcomes the good news about the birth of her grandson, Blake.
   - **C.** Fran is offended by the letter's cold, businesslike tone.
   - **D.** Fran knows how hard it must have been for Linda Rose to write the letter.

8. It can logically be inferred from the passage that the reason it has been a long time since Fran and Linda Rose have seen each other is because:
   - **F.** Linda Rose left home to get married.
   - **G.** arguments between Fran and Linda Rose drove Linda Rose away.
   - **H.** Linda Rose chose to live with her father.
   - **J.** as a child Linda Rose was adopted by another family.

9. A reasonable conclusion Fran and her mother draw about Linda Rose from her letter and picture is that Linda Rose:
   - **A.** lives near the coast of Texas with her husband.
   - **B.** enjoys and collects fine paintings.
   - **C.** bears a strong resemblance to Fran.
   - **D.** cares little about how she or her house looks.

GO ON TO THE NEXT PAGE.

10. According to the passage, the reason why Fran's mother warns Fran not to put off contacting Linda Rose is that Fran's mother:
    F. wants before she dies to see her new great-grandson.
    G. knows Fran tends to delay making hard decisions.
    H. knows how long Linda Rose has been waiting to see Fran.
    J. suspects Linda Rose is in some sort of trouble.

Passage II

SOCIAL SCIENCE: This passage is adapted from a book titled *How Courts Govern America* by Richard Neely (©1981 by Richard Neely).

Government is a technical undertaking, like the building of rocketships or the organizing of railroad yards. Except possibly on the local level, the issues which attract public notice usually involve raising money (taxes), spending money (public works), foreign wars (preventing them or arguing for fighting easy ones), education, public morals, crime in the streets, and, most important of all, the economy. When times are bad, or there is a nationwide strike or disaster, interest in the economy becomes all-consuming. However, the daily toiling of countless millions of civil servants in areas such as occupational health and safety, motor vehicle regulation, or control of navigable waterways escapes public notice almost completely.

Furthermore, even with regard to high-visibility issues, significant communication between the electorate and public officials is extremely circumscribed. Most serious political communication is limited to forty-five seconds on the network evening news. In days gone by, when the only entertainment in town on a Wednesday night was to go to the county courthouse to listen to a prominent politician give a theatrical tirade against Herbert Hoover, an eloquent speaker could pack the courthouse and have five thousand people lined up to the railroad tracks listening to the booming loudspeakers.

The political orator of yesteryear has been replaced by a flickering image on the tube unlocking the secrets of the government universe in forty-five-second licks. Gone forever are Lincoln-Douglas type debates on courthouse steps. Newspapers take up the slack a little, but very little. Most of what one says to a local newspaper (maybe not the *New York Times*) gets filtered through the mind of an inexperienced twenty-three-year-old journalism school graduate. Try sometime to explain the intricacies of a program budget, which basically involves solving a grand equation composed of numerous simultaneous differential functions, to a reporter whose journalism school curriculum did not include advanced algebra, to say nothing of calculus.

But the electorate is as interested in the whys and wherefores of most technical, nonemotional political issues as I am in putting ships in bottles: they do not particularly care. Process and personalities, the way decisions are made and by whom, the level of perquisites, extramarital sexual relations, and, in high offices, personal gossip dominate the public mind, while interest in the substance of technical decisions is minimal. Reporters focus on what sells papers or gets a high Nielsen rating; neither newspapers nor television stations intend to lose their primary value as entertainment. Since the populace at large is more than willing to delegate evaluation of the technical aspects of government to somebody else, it inevitably follows that voting is a negative exercise, not a positive one. Angry voters turn the rascals out and, in the triumph of hope over experience, let new rascals in. What voters are unable to do—because they themselves do not understand the technical questions—is tell the rascals how to do their jobs better.

Serious coverage of goings-on in government is deterred by the fact that government is so technical that even career civil servants cannot explain what is happening. In 1978 I attended a seminar on federal estate and gift tax, where the Internal Revenue Service lawyers responsible for this area frankly confessed that they did not understand the Tax Reform Act of 1976. Intricate technical issues such as taxation, arms control, and nuclear power are difficult to understand for professionals, to say nothing of the most diligent layman.

That anything gets done by a political body at all is to be applauded as a miracle rather than accepted as a matter of course. When we recognize that in the federal government, with its millions of employees, there are but five hundred and thirty-seven elected officials, put into office to carry out the "will" of a people who for the most part know little and care less about the technical functioning of their government, the absurdity of the notion of rapid democratic responsiveness becomes clear. The widely held tenet of democratic faith that elected officials, as opposed to bureaucrats or the judiciary, are popularly selected and democratically responsive is largely a myth which gives a useful legitimacy to a system. In fact, however, far from democratic control, the two most important forces in political life are indifference and its direct byproduct, inertia.

11. One of the main points that the author seeks to make in the passage is that American citizens:
    A. cannot understand government because they read too many newspapers and watch too much television.
    B. have little chance of improving government because they do not understand the important details of government.
    C. can control elected officials' technical decisions through elections, but have no control over the bureaucrats.
    D. used to have a responsive government before television cut back on news and began to concentrate on entertainment.

GO ON TO THE NEXT PAGE.

12. The author asserts that local newspaper reporters are often:
    - F. inexperienced and insufficiently educated.
    - G. inexperienced but well educated.
    - H. young but experienced.
    - J. young and well educated.

13. The author uses the description of the tax seminar in 1978 to make the point that some governmental issues are:
    - A. so technical that not even career civil servants can understand them.
    - B. so technical that only career civil servants can understand them.
    - C. more technical than they used to be before the passage of the Tax Reform Act.
    - D. too technical for anyone other than an Internal Revenue Service tax lawyer to understand.

14. When the author asserts that *indifference* is a central fact of American political life (line 87), he most likely means that citizens are:
    - F. not concerned about the technical, but important, details of government.
    - G. completely taken in by the myth that government is responsive to democratic control.
    - H. more responsive to elected government officials than to unelected bureaucrats.
    - J. not prepared to concede legitimacy to a government unless it is democratically elected.

15. According to the passage, when is voter interest in the economy greatest?
    - A. When national elections are held
    - B. When interesting personalities are leaders
    - C. When there are bad economic times
    - D. When there are no other interesting issues

16. As it is used in line 17, the word *circumscribed* means:
    - F. technical.
    - G. limited.
    - H. entertaining.
    - J. serious.

17. According to the passage, the news story under which of the following headlines would attract the greatest number of readers?
    - A. Department of Interior Announces End of National Park Fees
    - B. New Accounting Procedures in Federal Budget
    - C. New Federal Safety Regulations Due Out Today
    - D. Senator Smith Claims 'I Never Made a Nickel On It'

18. The passage makes the claim that television news coverage is heavily influenced by Nielsen ratings because:
    - F. those ratings place great emphasis on technical details.
    - G. their competitors, the newspapers, get very high ratings.
    - H. the Federal Communications Commission requires Nielsen ratings.
    - J. television is primarily an entertainment medium.

19. In the fourth paragraph, the phrase "the triumph of hope over experience" (lines 57–58) is an expression of the belief that:
    - A. newly elected officials will govern better than the ones just defeated.
    - B. expertise in a technical field is a qualification for holding office.
    - C. if the voters get angry enough, elected officials will do a better job.
    - D. newspapers and television will eventually provide better news coverage.

20. In the passage, the argument is made that citizens are unable to tell government officials how to do their jobs better because citizens:
    - F. don't vote in every election.
    - G. have a tendency to elect rascals.
    - H. don't read enough newspapers or see enough television.
    - J. don't understand the technical details of government.

GO ON TO THE NEXT PAGE.

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Passage III

HUMANITIES: This passage is adapted from Bharati Mukherjee's essay "A Four-Hundred-Year-Old Woman," which appears in the anthology *The Writer on Her Work* (©1991 by Janet Sternburg).

I was born into a class that did not live in its native language. I was born into a city that feared its future, and trained me for emigration. I attended a school run by Irish nuns, who regarded our walled-off school compound in Calcutta as a corner of England. My "country"—called in Bengali *desh*—I have never seen. It is the ancestral home of my father and is now in Bangladesh. Nevertheless, I speak his dialect of Bengali, and think of myself as "belonging" to Faridpur, the tiny village that was his birthplace. The larger political entity to which I gave my first allegiance—India—was not even a sovereign nation when I was born.

My horoscope, cast by a neighborhood astrologer when I was a week-old infant, predicted that I would be a writer, that I would cross oceans and make my home among aliens. Brought up in a culture that places its faith in horoscopes, it never occurred to me to doubt it. The astrologer meant to offer me a melancholy future; to be destined to leave India was to be banished from the sources of true culture. The nuns at school, on the other hand, insinuated that India had long outlived its glories, and that if we wanted to be educated, modern women, we'd better hit the trail westward. All my girlhood, I straddled the seesaw of contradictions.

I have found my way to the United States after many transit stops. The unglimpsed phantom Faridpur and the all too real Manhattan have merged as "desh." I am an American. I am an American writer, in the American mainstream, trying to extend it. This is a vitally important statement for me—I am not an Indian writer, not an expatriate. I am an immigrant; my investment is in the American reality, not the Indian.

It took me ten painful years, from the early seventies to the early eighties, to overthrow the smothering tyranny of nostalgia. The remaining struggle for me is to make the American readership, meaning the editorial and publishing industries as well, acknowledge the same fact. The foreign-born, the Third World immigrant with non-Western religions and non-European languages and appearance, can be as American as any steerage passenger from Ireland, Italy, or the Russian Pale.

My literary agenda begins by acknowledging that America has transformed *me*. It does not end until I show how I (and the hundreds of thousands like me) have transformed America.

I've had to sensitize editors as well as readers to the richness of the lives I'm writing about. The most moving form of praise I receive from readers can be summed up in three words: *I never knew*. Meaning, I see these people (call them Indians, Filipinos, Koreans, Chinese) around me all the time and I never knew they had an inner life. I never knew they schemed and cheated, suffered, cared so passionately. When even the forms of praise are so rudimentary, the writer knows she has an inexhaustible fictional population to enumerate. Perhaps even a mission.

I have been blessed with an enormity of material: the rapid and dramatic transformation of the United States since the early 1970s. Within that perceived perimeter, however, I hope to wring surprises.

Yet my imaginative home is also in the tales told by my mother and grandmother, the world of the Hindu epics. For all the hope and energy I have placed in the process of immigration and accommodation—I'm a person who couldn't ride a public bus when she first arrived, and now I'm someone who watches tractor pulls on obscure cable channels—there are parts of me that remain Indian. The form that my stories and novels take inevitably reflects the resources of Indian mythology—shape-changing, miracles, godly perspectives. My characters can, I hope, transcend the straitjacket of simple psychologizing. The people I write about are culturally and politically several hundred years old: consider the history they have witnessed (colonialism, technology, education, liberation, civil war). They have shed old identities, taken on new ones, and learned to hide the scars. They may sell you newspapers, or clean your offices at night.

Writers (especially American writers weaned on affluence and freedom) often disavow the notion of a "literary duty" or "political consciousness," citing the all-too-frequent examples of writers ruined by their shrill commitments. Glibness abounds on both sides of the argument, but finally I have to side with my "Third World" compatriots: I do have a duty, beyond telling a good story. My duty is to give voice to continents, but also to redefine the nature of *American*.

21. One of the main arguments the author is trying to make in the passage is that:

A. until recently, foreign-born residents have not wanted to be involved in defining the American reality.
B. non-Western immigrants are changing the definition of what it means to be an American.
C. the United States immigration policy is inherently unfair.
D. America has changed the political affiliations of most non-Western immigrants.

GO ON TO THE NEXT PAGE.

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22. Considering the information given in the first three paragraphs (lines 1–33), which of the following is the most accurate description of the author's girlhood and early adulthood?
    - **F.** She grew up and was educated in Calcutta, moved to the United States, and lived in Manhattan.
    - **G.** She was born in Calcutta, was educated in England by Irish nuns, then moved to Manhattan.
    - **H.** She was raised in Bangladesh, educated by Irish nuns in Calcutta, moved first to England and some time later arrived in the United States.
    - **J.** She was born in Faridpur, was educated in Calcutta, then moved to Manhattan.

23. The author sees her "literary agenda" (line 44) and her "mission" (line 58) to be:
    - **A.** raising the political consciousness of recent immigrants to the United States.
    - **B.** creating characters whose cultural heritage is not easily identifiable.
    - **C.** reinterpreting, through her stories, what it means to be an American.
    - **D.** finding an audience for her stories and novels.

24. Which of the following statements from the passage is an acknowledgment by the author that she was changed by America?
    - **F.** "The astrologer meant to offer me a melancholy future" (line 19).
    - **G.** "All my girlhood, I straddled the seesaw of contradictions" (lines 24–25).
    - **H.** "I'm someone who watches tractor pulls on obscure cable channels" (lines 68–69).
    - **J.** "My characters can, I hope, transcend the straitjacket of simple psychologizing" (lines 73–74).

25. The author refers to the village of Faridpur as a "phantom" (line 27) because:
    - **A.** it is a part of the Indian mythology her mother told her about.
    - **B.** she considers Manhattan, not Bangladesh, to be her home.
    - **C.** even though it was once part of India, it is now part of Bangladesh.
    - **D.** even though she considers it to be her ancestral home, she has never been there.

26. When the author says that she is "trying to extend it" (line 30), she most likely means that she:
    - **F.** wants to see people from non-European ethnicities included in what is considered mainstream American.
    - **G.** prefers to be part of both the Indian and the American cultures.
    - **H.** is trying to find a way to make her home in the United States permanent.
    - **J.** is working to change regulations so that many more Indian immigrants can live in the United States.

27. The author implies that she had to "sensitize editors" (line 48) because those editors:
    - **A.** did not understand that many Asian Americans were already reading her work.
    - **B.** gave superficial praise to her work, but would not publish her novels.
    - **C.** were overtly discriminatory when it came to non-Western writers.
    - **D.** tended to view the people she wrote about as one-dimensional.

28. According to the passage, by reading her stories, many of the author's readers learned that:
    - **F.** good fiction writing obscures cultural differences among characters.
    - **G.** they have much more in common with the author's characters than they ever realized.
    - **H.** stories about immigrants to the United States generally have many more characters than do other types of stories.
    - **J.** because of their immigrant status, people from non-Western countries have developed a stronger inner life than have most native-born Americans.

29. The first paragraph states that, at the time of the author's birth, India was:
    - **A.** engaged in a war with England.
    - **B.** not an independent country.
    - **C.** still part of Bangladesh.
    - **D.** governed by the Irish.

30. When the author says that the people she writes about "are culturally and politically several hundred years old" (lines 75–76), she most likely means that her characters:
    - **F.** have cultural and political viewpoints that are repressive and outdated.
    - **G.** have rejected Bengali, British, Irish, and American values.
    - **H.** have experienced an incredible amount of change in just one lifetime.
    - **J.** are really her mother's and grandmother's ancestors.

GO ON TO THE NEXT PAGE.

Passage IV

NATURAL SCIENCE: This passage is adapted from the essay "Were Dinosaurs Dumb?" by Stephen Jay Gould (©1980 by Stephen Jay Gould).

The discovery of dinosaurs in the nineteenth century provided, or so it appeared, a quintessential case for the negative correlation of size and smarts. With their pea brains and giant bodies, dinosaurs became a symbol of lumbering stupidity. Their extinction seemed only to confirm their flawed design.

Dinosaurs were not even granted the usual solace of a giant—great physical prowess. . . . Dinosaurs . . . have usually been reconstructed as slow and clumsy. In the standard illustration, *Brontosaurus* wades in a murky pond because he cannot hold up his own weight on land. . . .

Dinosaurs have been making a strong comeback of late, in this age of "I'm OK, You're OK." Most paleontologists are now willing to view them as energetic, active, and capable animals. The *Brontosaurus* that wallowed in its pond a generation ago is now running on land, while pairs of males have been seen twining their necks about each other in elaborate sexual combat for access to females (much like the neck wrestling of giraffes). Modern anatomical reconstructions indicate strength and agility, and many paleontologists now believe that dinosaurs were warmblooded. . . .

The idea of warmblooded dinosaurs has captured the public imagination and received a torrent of press coverage. Yet another vindication of dinosaurian capability has received very little attention, although I regard it as equally significant. I refer to the issue of stupidity and its correlation with size. The revisionist interpretation, which I support, . . . does not enshrine dinosaurs as paragons of intellect, but it does maintain that they were not small brained after all. They had the "right-sized" brains for reptiles of their body size.

I don't wish to deny that the flattened, minuscule head of large-bodied *Stegosaurus* houses little brain from our subjective, top-heavy perspective, but I do wish to assert that we should not expect more of the beast. First of all, large animals have relatively smaller brains than related, small animals. The correlation of brain size with body size among kindred animals (all reptiles, all mammals for example) is remarkably regular. As we move from small to large animals, from mice to elephants or small lizards to Komodo dragons, brain size increases, but not so fast as body size. In other words, bodies grow faster than brains, and large animals have low ratios of brain weight to body weight. In fact, brains grow only about two-thirds as fast as bodies. Since we have no reason to believe that large animals are consistently stupider than their smaller relatives, we must conclude that large animals require relatively less brain to do as well as smaller animals. If we do not recognize this relationship, we are likely to underestimate the mental power of very large animals, dinosaurs in particular. . . .

If behavioral complexity is one consequence of mental power, then we might expect to uncover among dinosaurs some signs of social behavior that demand coordination, cohesiveness and recognition. Indeed we do, and it cannot be accidental that these signs were overlooked when dinosaurs labored under the burden of a falsely imposed obtuseness. Multiple trackways have been uncovered, with evidence for more than twenty animals traveling together in parallel movement. Did some dinosaurs live in herds? At the Davenport Ranch sauropod trackway, small footprints lie in the center and larger ones at the periphery. Could it be that some dinosaurs traveled much as some advanced herbivorous mammals do today, with large adults at the borders sheltering juveniles in the center? . . .

But the best illustration of dinosaurian capability may well be the fact most often cited against them—their demise. . . .

The remarkable thing about dinosaurs is not that they became extinct, but that they dominated the earth for so long. Dinosaurs held sway for 100 million years while mammals, all the while, lived as small animals in the interstices of their world. After 70 million years on top, we mammals have an excellent track record and good prospects for the future, but we have yet to display the staying power of dinosaurs.

People, on this criterion, are scarcely worth mentioning—5 million years perhaps since *Australopithecus*, a mere 50,000 for our own species, *Homo sapiens*. Try the ultimate test within our system of values: Do you know anyone who would wager a substantial sum even at favorable odds on the proposition that *Homo sapiens* will last longer than *Brontosaurus*?

31. In the context of the passage as a whole, it is most reasonable to infer that the phrase "the *Brontosaurus* that wallowed in its pond a generation ago is now running on land" (lines 16–18) means that:

- **A.** the *Brontosaurus* evolved from living in the water to living on land.
- **B.** scientists' understanding of the *Brontosaurus*'s lifestyle has changed within the last generation.
- **C.** standard illustrations of dinosaurs still inaccurately depict their lifestyles.
- **D.** the *Brontosaurus* eventually learned to hold up its own weight on land.

32. The passage suggests that some fossil evidence about dinosaur behavior has been overlooked in the past because scientists:

- **F.** had preconceived ideas about the intelligence of dinosaurs.
- **G.** believed that mammals were not capable of social formations.
- **H.** did not have the current data about dinosaur brain size.
- **J.** did not have the necessary equipment to discover the social patterns of dinosaurs.

GO ON TO THE NEXT PAGE.

33. What does the passage offer as evidence that dinosaurs may have exhibited complex behaviors?
   A. Modern anatomical reconstructions indicating strength and agility
   B. Fossils revealing that dinosaurs labored under severe burdens
   C. Footprints of varying sizes indicating that dinosaurs traveled with advanced herbivorous mammals
   D. Multiple trackways in which footprint size and location indicate social order

34. In the context of the passage, what does the author mean when he states that "people . . . are scarcely worth mentioning" (lines 81–82)?
   F. Compared to the complex social behavior of dinosaurs, human behavior seems simple.
   G. Compared to the longevity of dinosaurs, humans have been on earth a very short time.
   H. Compared to the size of dinosaurs, humans seem incredibly small.
   J. Compared to the amount of study done on dinosaurs, study of human behavior is severely lacking.

35. According to the passage, what is the revisionist interpretation concerning the relationship between intelligence and physical size?
   A. Dinosaurs actually had relatively large brains.
   B. Dinosaurs were paragons of intellect.
   C. Dinosaurs were relatively small brained.
   D. Dinosaurs' brains were appropriately sized.

36. What does the author suggest in lines 34–38 when he states that *Stegosaurus* has a small brain from "our subjective, top-heavy perspective"?
   F. Humans are unusually smart in their judgment of other species.
   G. The human physical construction is deformed by the largeness of the skull.
   H. It is unfair to judge other species by human standards.
   J. Not all species have a brain as small relative to body weight as do humans.

37. The passage states that the ratio of brain weight to body weight in larger animals, as compared to smaller animals, is:
   A. higher.
   B. lower.
   C. the same.
   D. overestimated.

38. According to the passage, which of the following correctly states the relationship of brain size to body size?
   F. The brain grows at two-thirds the rate of body growth.
   G. At maturity, the brain weighs an average of one-third of body weight.
   H. Large animals are not consistently less intelligent than smaller animals.
   J. Brain size is independent of body size.

39. The author states that the best illustration of dinosaurs' capability is their dominance of the earth for:
   A. 100,000 years.
   B. 5 million years.
   C. 70 million years.
   D. 100 million years.

40. As it is used in line 82, the term *Australopithecus* most nearly means:
   F. the last of the dinosaurs, which became extinct 5 million years ago.
   G. the first *Homo sapiens,* who appeared on earth 50,000 years ago.
   H. an early version of humankind, but a different species.
   J. a physically larger species of human with a much smaller brain.

END OF TEST 3

STOP! DO NOT TURN THE PAGE UNTIL TOLD TO DO SO.

DO NOT RETURN TO A PREVIOUS TEST.

SCIENCE TEST

35 Minutes—40 Questions

DIRECTIONS: There are seven passages in this test. Each passage is followed by several questions. After reading a passage, choose the best answer to each question and fill in the corresponding oval on your answer document. You may refer to the passages as often as necessary.

You are NOT permitted to use a calculator on this test.

Passage I

Flood basalt plateaus are large areas of Earth's surface covered with thick hardened lava. It has been hypothesized that the huge outpourings of lava that formed these plateaus were produced by *plumes* of molten material rising from deep within Earth.

Study 1

A model of a typical plume was created using a computer. It was hypothesized that the "head" of the plume produced the flood basalt plateaus when its molten material reached the surface. Figure 1 shows the computer-generated plume, its diameter, and how long, in millions of years (Myr), it would take the head of the plume to reach the surface.

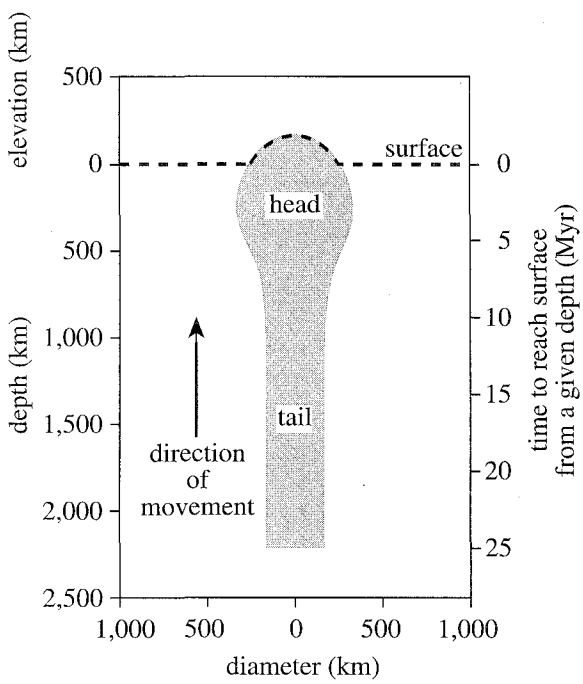


Figure 1

Figure adapted from R. I. Hill et al., *Mantle Plumes and Continental Tectonics*. ©1992 by the American Association for the Advancement of Science.

Study 2

Four flood basalt plateaus (A–D) were studied. The lava volume, in cubic kilometers (km^3), was estimated for each plateau from the area of the plateau and the average thickness of the lava. The length of time lava was being produced at each plateau, and the rate of lava production, in km^3 per year, were also estimated. The results are in Table 1.

Table 1

Plateau	Age (Myr)	Lava volume (km^3)	Length of time lava was produced (Myr)	Rate of lava production (km^3/yr)
A	60	2,000,000	1.6	1.25
B	67	1,500,000	1.3	1.2
C	135	1,440,000	1.2	1.2
D	192	2,125,000	1.7	1.25

Table adapted from Mark A. Richards et al., *Flood Basalts and Hot-Spot Tracks: Plume Heads and Tails*. ©1989 by the American Association for the Advancement of Science.

Study 3

Scientists found that 3 large extinctions of marine organisms had ages similar to those of the formation of 3 of the flood basalt plateaus; 58 Myr, 66 Myr, and 133 Myr. It was hypothesized that the production of large amounts of lava and gases in the formation of plateaus may have contributed to those extinctions.

(Note: All of these ages have an error of ±1 Myr.)

GO ON TO THE NEXT PAGE.

1. If the plume model in Study 1 is typical of all mantle plumes, the scientists would generalize that the heads of plumes are:
   - **A.** approximately half the diameter of the tail.
   - **B.** approximately twice the diameter of the tail.
   - **C.** the same diameter as the tail.
   - **D.** half as dense as the tail.

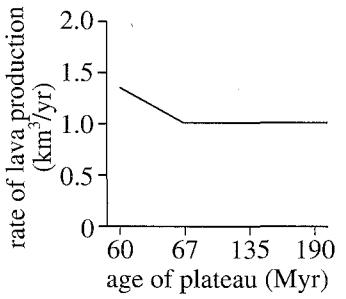
2. The scientists in Study 3 hypothesized that the larger the volume of lava produced, the larger the number of marine organisms that would become extinct. If this hypothesis is correct, the formation of which of the following plateaus caused the largest number of marine organisms to become extinct?
   - **F.** Plateau A
   - **G.** Plateau B
   - **H.** Plateau C
   - **J.** Plateau D

3. Based on the results of Study 2, a flood basalt plateau that produced lava for a period of 1.8 Myr would most likely have a lava volume:
   - **A.** between 1,440,000 km^3 and 1,500,000 km^3.
   - **B.** between 1,500,000 km^3 and 2,000,000 km^3.
   - **C.** between 2,000,000 km^3 and 2,125,000 km^3.
   - **D.** over 2,125,000 km^3.

4. According to Study 2, which of the following statements best describes the relationship, if any, between the age of a flood basalt plateau and the length of time lava was produced at that plateau?
   - **F.** As the age of a plateau increases, the length of time lava was produced increases.
   - **G.** As the age of a plateau increases, the length of time lava was produced decreases.
   - **H.** As the age of a plateau increases, the length of time lava was produced increases, and then decreases.
   - **J.** There is no apparent relationship between the age of a plateau and the length of time lava was produced.

5. Which of the following graphs best represents the relationship between the age of a flood basalt plateau and the rate of lava production?

A.



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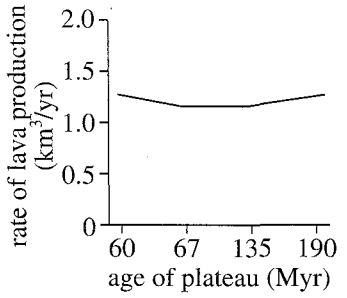

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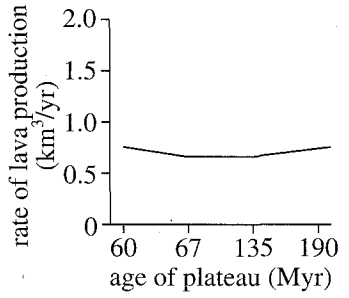

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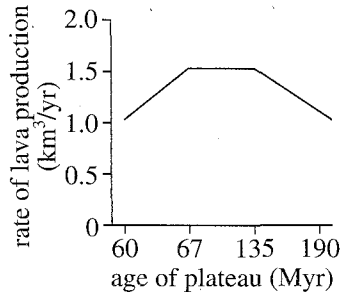

6. If the hypothesis made by the scientists in Study 3 is correct, evidence would most likely be found of another extinction of marine organisms that occurred around:
   - **F.** 77 Myr ago.
   - **G.** 192 Myr ago.
   - **H.** 250 Myr ago.
   - **J.** 314 Myr ago.

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Passage II

Succession refers to the change in species composition in a given area over ecological time.

Table 1 shows the bird species, the *dominant* (most common) plants, and the successional time in years (yr) on plots of abandoned farmland studied in Georgia.

Table 1

Bird species	Successional time (yr)	1	3	15	20	25	35	60	100	150
	Dominant plants	Weeds	Grasses	Shrubs		Pines				Oaks
Grasshopper sparrow		■	■							
Eastern meadowlark			■	■						
Yellowthroat				■	■					
Field sparrow				■	■	■				
Yellow-breasted chat					■					
Rufous-sided towhee						■	■	■	■	
Pine warbler						■	■	■	■	
Cardinal							■	■	■	
Summer tanager							■	■	■	
Eastern wood pewee								■	■	
Blue-gray gnatcatcher								■	■	■
Crested flycatcher									■	
Carolina wren									■	■
Ruby-throated hummingbird									■	■
Tufted titmouse									■	■
Hooded warbler									■	■
Red-eyed vireo									■	■
Wood thrush										■

Note: Shaded areas indicate bird species was present at a density of at least 1 pair per 10 acres.

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The estimated changes in *net productivity* (grams of organic mass produced per square meter per year [g/m^2/yr]) and *biomass* (kilograms of organic material per square meter [kg/m^2]) of plants on abandoned farmland in New York appear in Figures 1 and 2, respectively. Successional time is divided into 3 stages based on the dominant plants.

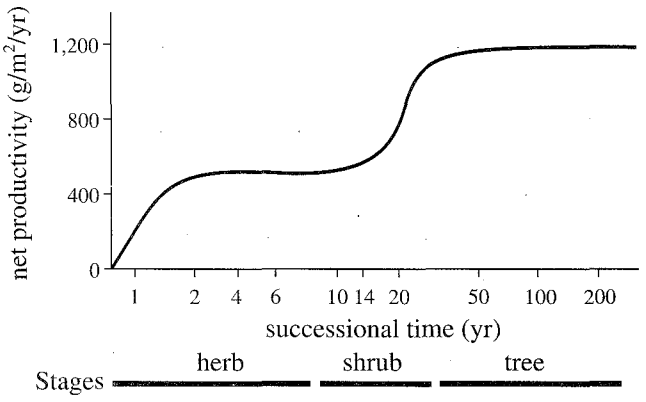

Figure 1

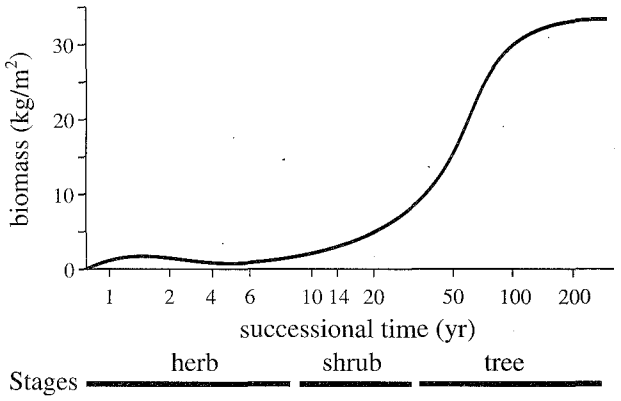

Figure 2

Figures and table adapted from William T. Keeton and James L. Gould, *Biological Science*. ©1986 by W.W. Norton & Company, Inc.

7. According to Figure 1, at the end of Year 50 the net productivity of the land was closest to:

   A. 15 g/m^2/yr.
   B. 50 g/m^2/yr.
   C. 425 g/m^2/yr.
   D. 1,125 g/m^2/yr.

8. Based on the data in Figures 1 and 2, the researchers should make which of the following conclusions about the overall change in net productivity and biomass over the 200 years studied?

   F. Both net productivity and biomass increased.
   G. Both net productivity and biomass decreased.
   H. Net productivity increased and biomass decreased.
   J. Net productivity decreased and biomass increased.

9. According to Figure 1, total net productivity increased the most during which of the following time periods?

   A. From the end of Year 2 to the end of Year 4
   B. From the end of Year 4 to the end of Year 14
   C. From the end of Year 14 to the end of Year 50
   D. From the end of Year 50 to the end of Year 200

10. Which of the following conclusions about net productivity is consistent with the results shown in Figure 1 ?

    F. Net productivity was lowest when shrubs were the dominant plants.
    G. Net productivity was lowest when trees were the dominant plants.
    H. Net productivity was highest when herbs were the dominant plants.
    J. Net productivity was highest when trees were the dominant plants.

11. A student learned that a particular plot of abandoned farmland in Georgia supported eastern meadowlarks, yellowthroats, and field sparrows at a density of at least 1 pair per 10 acres. Based on Table 1, the student would predict that the dominant plants on this plot of land were most likely:

    A. weeds.
    B. grasses.
    C. shrubs.
    D. pines.

Passage III

Solids, liquids, and gases usually expand when heated. Three experiments were conducted by scientists to study the expansion of different substances.

Experiment 1

The apparatus shown in Diagram 1 was used to measure the linear expansion of wires of the same length made from different metals. In each trial, a wire was connected to a voltage source, run through a series of pulleys, then attached to a weight. The temperature of the wire was varied by changing the amount of voltage applied. The amount of expansion is directly proportional to the rotation of the final pulley. The results are shown in Figure 1.

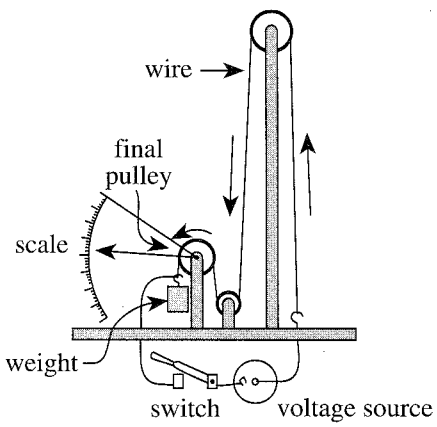

Diagram 1

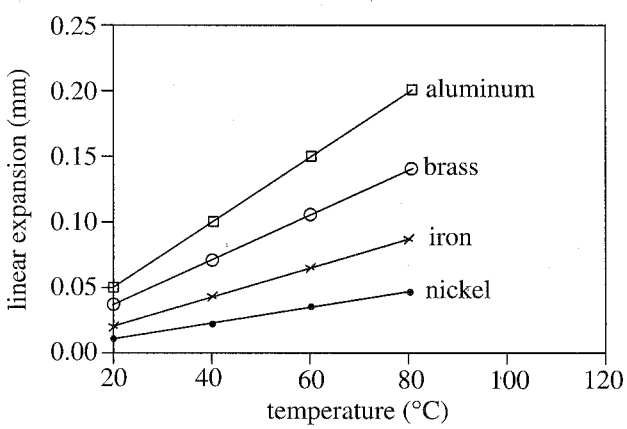

Figure 1

Experiment 2

A sample of liquid was placed in a stoppered test tube fitted with a graduated capillary tube and the test tube was then placed in a temperature-controlled water bath (Diagram 2). The rise of the liquid in the capillary tube was then measured at different temperatures. The results for 3 liquids are shown in Figure 2.

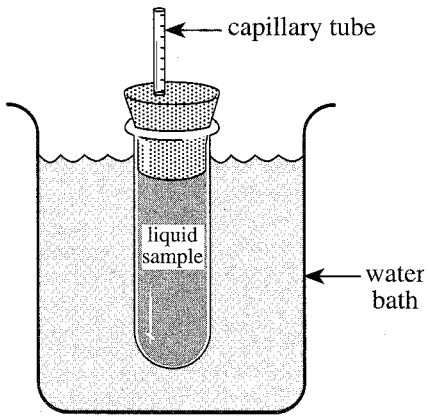

Diagram 2

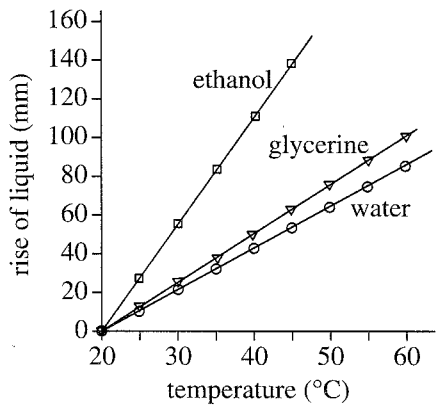

Figure 2

Experiment 3

A 20 mL sample of a gas in a gas syringe at room temperature (20°C) was placed in a temperature-controlled water bath (Diagram 3). Changes in gas volume as the temperature increased were measured for 3 gases. The results are shown in Figure 3.

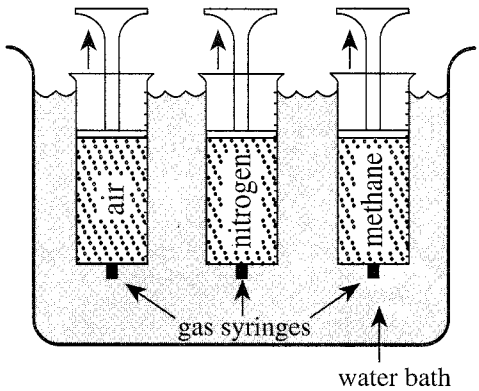

Diagram 3

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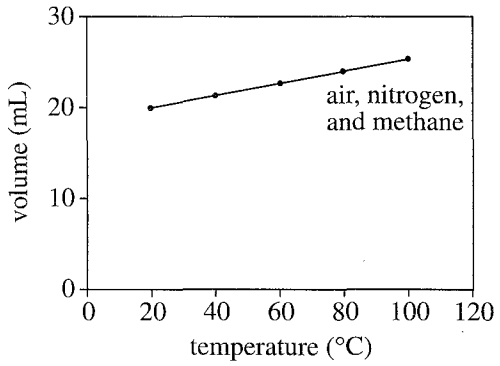


Figure 3

12. In Experiment 2, at which of the following temperatures did all of the liquids tested have the same volume?

F. 20°C
G. 30°C
H. 40°C
J. 50°C

13. A scientist has hypothesized that as the temperature of a gas is increased at constant pressure, the volume of the gas will also increase. Do the results of Experiment 3 support his hypothesis?

A. Yes; the volume of all of the gases tested in Experiment 3 increased as temperature increased.
B. Yes; although air decreased in volume when the temperature increased, nitrogen and methane volumes both increased.
C. No; the volume of all of the gases tested in Experiment 3 decreased as temperature increased.
D. No; although air increased in volume when the temperature increased, nitrogen and methane volumes both decreased.

14. Based on the results of Experiment 1, if an engineer needs a wire most resistant to stretching when it is placed under tension and heat, which of the following wires should she choose?

F. Aluminum
G. Brass
H. Iron
J. Nickel

15. Based on the results of Experiment 3, if a balloon was filled with air at room temperature and placed on the surface of a heated water bath, as the temperature of the water increased, the volume of the balloon would:

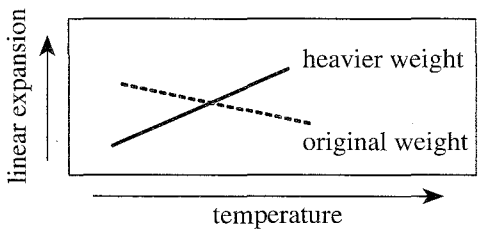
A. increase only.
B. decrease only.
C. decrease, then increase.
D. remain the same.

16. The scientists tested a copper wire of the same initial length as the wires tested in Experiment 1. At 80°C, the linear expansion of the wire was 0.12 mm. Based on the results of Experiment 1, which of the following correctly lists 5 wires by their length in the apparatus at 80°C from *shortest* to *longest* ?

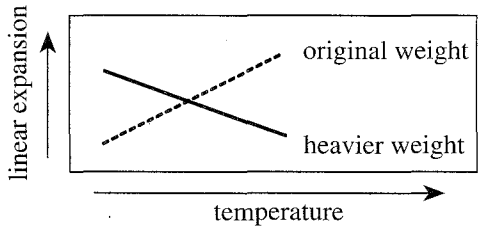
F. Aluminum, brass, copper, iron, nickel
G. Aluminum, copper, brass, iron, nickel
H. Nickel, iron, copper, brass, aluminum
J. Nickel, iron, brass, copper, aluminum

17. If Experiment 1 had been repeated using a heavier weight attached to the brass wire, which of the following figures best shows the comparison between the results of using the heavier weight and the original weight on the brass wire?

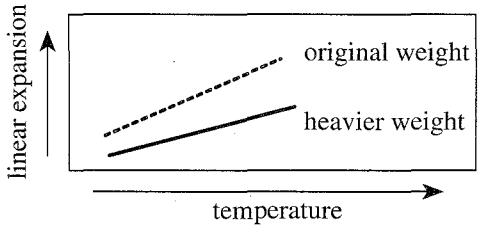
A.



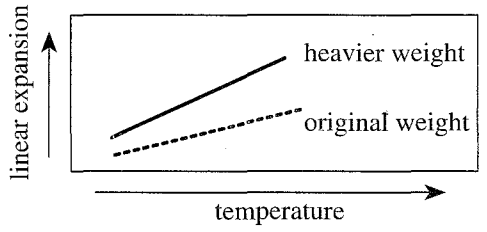
B.



C.

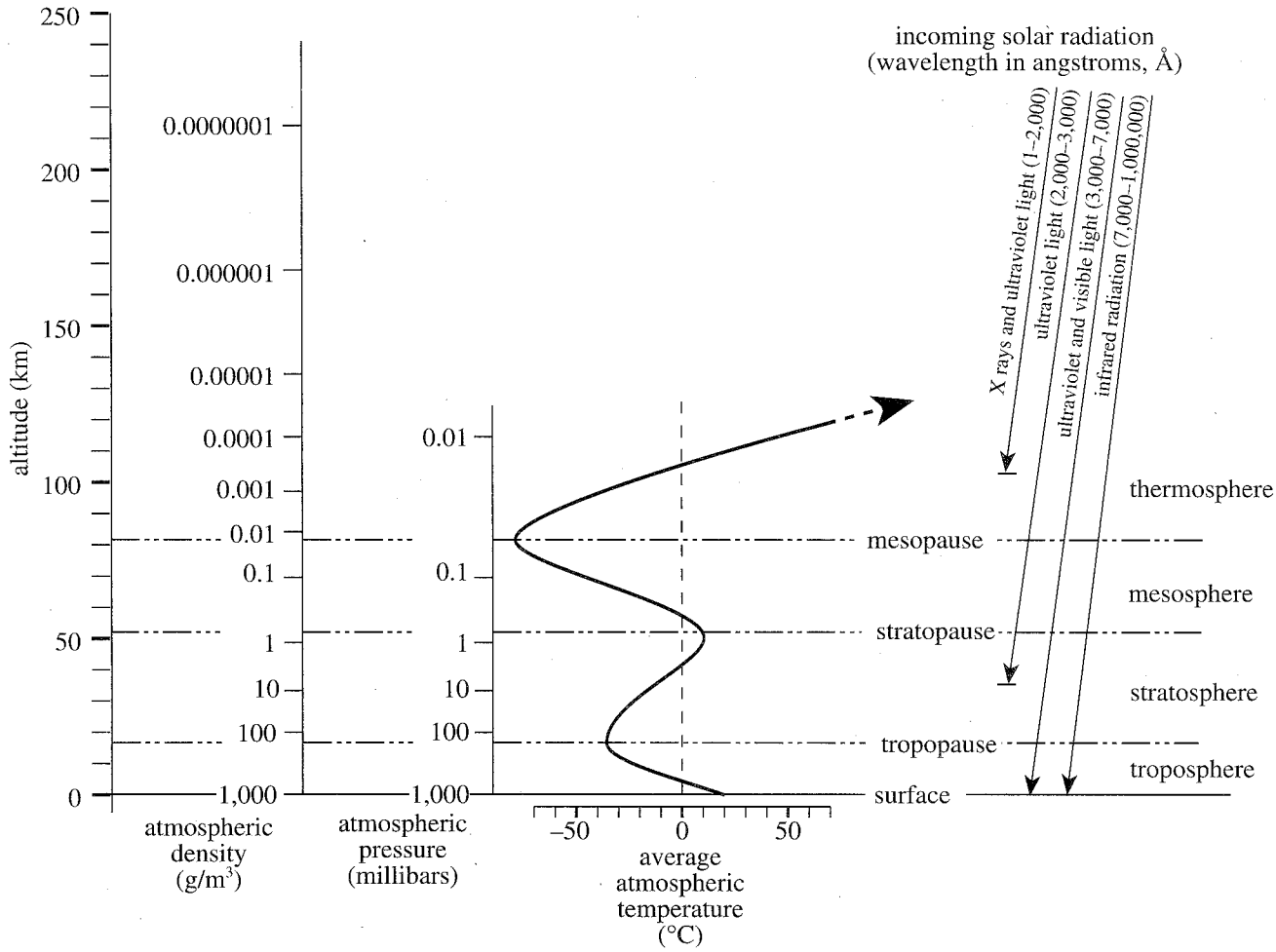


D.



Passage IV

Certain layers of Earth's atmosphere absorb particular wavelengths of solar radiation while letting others pass through. Types of solar radiation include X rays, ultraviolet light, visible light, and infrared radiation. The cross section of Earth's atmosphere below illustrates the altitudes at which certain wavelengths are absorbed. The arrows point to the altitudes at which solar radiation of different ranges of wavelengths is absorbed. The figure also indicates the layers of the atmosphere and how atmospheric density, pressure, and temperature vary with altitude.



Note: 1 Å = 1×10^{-10} meters.

Figure adapted from Arthur Strahler, *The Earth Sciences*. ©1963 by Harper and Row.

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18. According to the data provided, at what altitude is the upper boundary of the thermosphere located?

F. 150 km
G. 200 km
H. 250 km
J. The upper boundary is not included on the figure.

19. The ozone layer selectively absorbs ultraviolet radiation of 2,000–3,000 Å wavelengths. According to this information and the data, which atmospheric layer contains the ozone layer?

A. Troposphere
B. Stratosphere
C. Mesosphere
D. Thermosphere

20. The information provided in the figure indicates that the air temperature in the troposphere is LEAST likely to be influenced by which of the following wavelengths of energy?

F. 1,500 Å
G. 4,500 Å
H. 6,000 Å
J. 7,000 Å

21. On the basis of the information in the figure, one could generalize that atmospheric pressure in each atmospheric layer increases with:

A. decreasing temperature.
B. increasing temperature.
C. decreasing altitude.
D. increasing altitude.

22. Atmospheric boundaries are at a higher than usual altitude above areas that get more direct solar radiation. Based on this information and the data provided, which of the following predictions about atmospheric boundaries would most likely be true if Earth received *less* solar radiation than it presently does?

F. The tropopause, stratopause, and mesopause would all increase in altitude.
G. The tropopause, stratopause, and mesopause would all decrease in altitude.
H. The tropopause and stratopause would increase in altitude, but the mesopause would decrease in altitude.
J. The tropopause would decrease in altitude, but the stratopause and mesopause would increase in altitude.

Passage V

Some oceanic shrimp are vertical migrators. For vertically migrating species, most of the population is found at the bottom of their depth range during the day and at the top of their depth range at night. Table 1 shows the depth ranges and water, protein, lipid, and carbohydrate content of 3 vertically migrating (vm) species of shrimp and 3 non-migrating (nm) species of deep-sea shrimp. Figure 1 shows water temperature and oxygen partial pressure at various ocean depths.

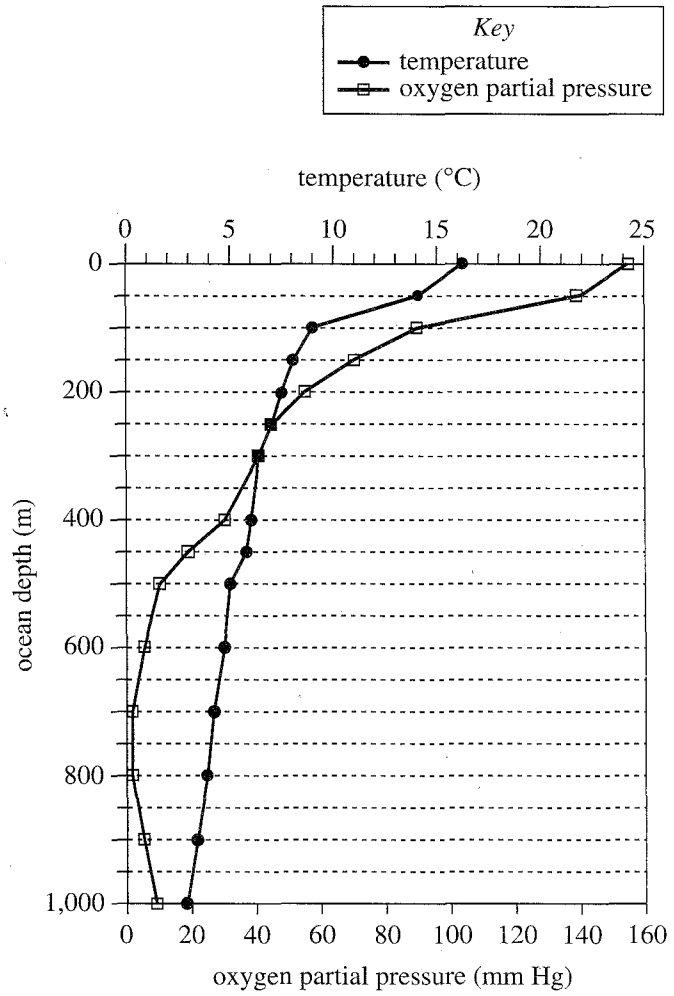

Figure 1

Table 1

Species	Depth range (m)	Water content (% wet weight)	% ash-free dry weight		
			protein	lipid	carbohydrate
vm 1	300– 600	77.5	62.8	23.8	0.7
vm 2	10– 400	76.6	53.4	16.4	0.8
vm 3	75– 400	79.5	60.5	14.7	0.7
nm 1	500–1,100	75.9	36.9	36.1	0.5
nm 2	500–1,000	76.7	41.5	31.5	0.8
nm 3	650–1,100	72.8	35.8	49.0	0.5

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23. Based on the information in Table 1, one would conclude that vertically migrating shrimp have a higher percent content of:

A. protein than lipid.
B. lipid than protein.
C. carbohydrate than lipid.
D. carbohydrate than protein.

24. On the basis of the information given, one would expect that, compared to the vertically migrating shrimp species, the nonmigrating shrimp species:

F. have a greater water content.
G. have a lower percent lipid content.
H. can tolerate higher water temperatures.
J. can tolerate lower oxygen partial pressures.

25. Assume that shrimp of a newly discovered species of vertically migrating shrimp were captured at night at a minimum depth of 200 m. Assume that only temperature limits the range of this species. Based on the information in Figure 1, one would predict that the maximum water temperature these shrimp could survive in would be:

A. 3.5°C.
B. 7.5°C.
C. 12.5°C.
D. 15.5°C.

26. Protein is a major component of muscle. Assume that shrimp that are strong swimmers tend to have a higher protein:lipid ratio than do shrimp that are weaker swimmers. On the basis of Table 1, one would conclude that which of the following shrimp species is the strongest swimmer?

F. vm 2
G. vm 3
H. nm 1
J. nm 3

27. Assume that only oxygen partial pressure limits the range of the shrimp species shown in Table 1. Accordingly, which of the following pieces of information supports the hypothesis that vm 2 and vm 3 cannot tolerate oxygen partial pressures below 25 mm Hg ?

A. They are not able to tolerate temperatures above 10°C.
B. They have unusually high water contents.
C. They are not found below a depth of 400 m.
D. They are not found above a depth of 100 m.

Passage VI

Two students explain why the *smoke* (a mixture of gases and carbon particles) from burning wood in a fireplace rises up the chimney from the fireplace. They also discuss how chimney *efficiency* (the volume of smoke flowing out the top of the chimney per second for a given temperature difference between inside and outside the chimney) is related to chimney height.

Student 1

Smoke rises because the gases from burning wood are less dense than the air that surrounds the fireplace. Because the gases are hotter than the air, the gas molecules have a higher average speed than the air molecules. Consequently, the average distance between adjacent gas molecules is greater than the average distance between adjacent air molecules, and so the gas *density* is less than the air density. As a result, the upward *buoyant force* acting on the gases is stronger than the downward *force of gravity* acting on the gases, and the gases rise, carrying the carbon particles with them. The upward flow of smoke is maintained as new air enters the fireplace, causing more wood to burn.

As chimney height increases, efficiency increases. The taller the chimney, the greater the volume of hot gas, the stronger the buoyant force compared with the force of gravity, and the more rapidly smoke rises.

Student 2

Smoke rises because wind blows across the top of the chimney. When no wind is blowing, the air pressure at the bottom of the chimney is slightly higher than the air pressure at the top of the chimney. However, when air at the top of the chimney moves at a higher speed than air at the bottom of the chimney, the pressure difference between the bottom and the top of the chimney is so great that air is forced upward, carrying smoke with it. The departure of air from the bottom of the chimney, in turn, creates a pressure difference that forces new air into the fireplace, causing further burning and an upward flow of smoke.

As chimney height increases, efficiency increases. Generally, wind speed increases with altitude. The taller the chimney, the greater the difference in air speed, the greater the difference in air pressure, and the more rapidly smoke rises.

28. According to Student 1, which of the following quantities is *less* for the gases from burning wood than for the air that surrounds the fireplace?

F. Average speed of the molecules
G. Average distance between adjacent molecules
H. Density
J. Temperature

29. When wood was burned in 2 fireplaces that differ only in the height of their chimneys (keeping the same temperature difference between inside and outside each chimney), Chimney Y was found to be more efficient than Chimney X. What conclusion would each student draw about which chimney is taller?

A. Both Student 1 and Student 2 would conclude that Chimney X is taller.
B. Both Student 1 and Student 2 would conclude that Chimney Y is taller.
C. Student 1 would conclude that Chimney X is taller; Student 2 would conclude that Chimney Y is taller.
D. Student 1 would conclude that Chimney Y is taller; Student 2 would conclude that Chimney X is taller.

30. Which student(s), if either, would predict that smoke from burning wood will rise up the chimney from a fireplace on a day when the air at the top of the chimney is NOT moving?

F. Student 1 only
G. Student 2 only
H. Both Student 1 and Student 2
J. Neither Student 1 nor Student 2

31. When wood is burned in a fireplace, air in the fireplace, as well as gases from the burning wood, rises up the chimney. Student 1 would most likely argue that the air in the fireplace rises because the air is:

A. hotter than the gases from the burning wood.
B. cooler than the gases from the burning wood.
C. hotter than the air that surrounds the fireplace.
D. cooler than the air that surrounds the fireplace.

32. When the air inside a particular hot-air balloon cooled, the balloon and its inside air descended. Based on Student 1's explanation, the reason the balloon and its inside air descended is most likely that the:

F. downward buoyant force acting on the balloon and its inside air was stronger than the upward force of gravity acting on the balloon and its inside air.
G. upward buoyant force acting on the balloon and its inside air was stronger than the downward force of gravity acting on the balloon and its inside air.
H. downward force of gravity acting on the balloon and its inside air was stronger than the upward buoyant force acting on the balloon and its inside air.
J. upward force of gravity acting on the balloon and its inside air was stronger than the downward buoyant force acting on the balloon and its inside air.

GO ON TO THE NEXT PAGE.

33. Based on Student 1's explanation, if the gases from burning wood lose heat while rising up a chimney, which of the following quantities pertaining to the gases simultaneously increases?

A. Density of the gases
B. Temperature of the gases
C. Average speed of the gas molecules
D. Average distance between adjacent gas molecules

34. Based on Student 2's explanation, the reason the wings of an airplane keep the airplane up in the air is that air moves at a higher speed:

F. above the wings than below the wings.
G. below the wings than above the wings.
H. in front of the wings than behind the wings.
J. behind the wings than in front of the wings.

Passage VII

Salts containing nitrite ions (NO_2^-) are often added to meats to prevent discoloration caused by air and bacterial growth. Use of NO_2^- is controversial because studies have linked NO_2^- with cancer. Students performed 2 experiments to measure NO_2^- levels.

Experiment 1

Four solutions, each containing a different amount of $NaNO_2$ (a salt) in H_2O were prepared. A coloring agent was added that binds with NO_2^- to form a purple compound that strongly absorbs light of a specific wavelength, and each solution was diluted to 100 mL. A *blank* solution was prepared in the same manner, but no $NaNO_2$ was added. A *colorimeter* (a device that measures how much light of a selected wavelength is absorbed by a sample) was used to measure the *absorbance* of each solution. The absorbances were corrected by subtracting the absorbance of the blank solution from each reading (see Table 1 and Figure 1).

Table 1

Concentration of NO_2^- (ppm*)	Measured absorbance	Corrected absorbance
0.0	0.129	0.000
1.0	0.282	0.153
2.0	0.431	0.302
4.0	0.729	0.600
8.0	1.349	1.220

*ppm is parts per million

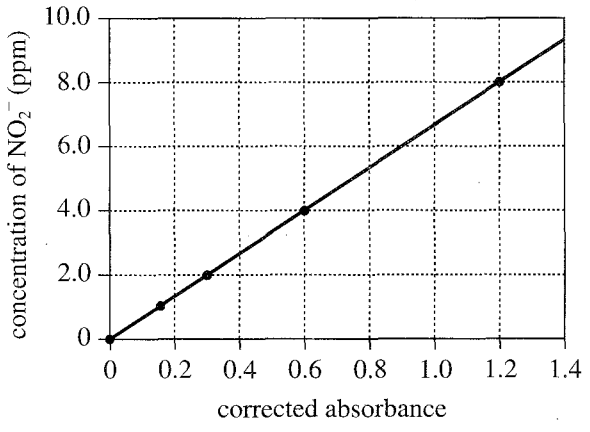

Figure 1

Experiment 2

A 100 g meat sample was ground in a blender with 50 mL of H_2O and the mixture was filtered. The blender and remaining meat were then washed with H_2O, these washings were filtered, and the liquid was added to the sample solution. The coloring agent was added and the solution was diluted to 100 mL. The procedure was repeated for several meats, and the absorbances were measured (see Table 2).

Table 2

Meat	Corrected absorbance	Concentration of NO_2^- (ppm)
Hot dog	0.667	4.4
Bologna	0.561	3.7
Ground turkey	0.030	0.2
Ham	0.940	6.2
Bacon	0.773	5.1

35. Based on the results of Experiment 1, if the concentration of NO_2^- in a solution is doubled, then the corrected absorbance of the solution will approximately:

A. remain the same.
B. halve.
C. double.
D. quadruple.

36. A sample of pastrami was also measured in Experiment 2 and its corrected absorbance was determined to be 0.603. Which of the following correctly lists bologna, bacon, and pastrami in *decreasing* order of NO_2^- concentration?

F. Bologna, bacon, pastrami
G. Pastrami, bacon, bologna
H. Bologna, pastrami, bacon
J. Bacon, pastrami, bologna

GO ON TO THE NEXT PAGE.

37. Based on the results of Experiment 1, if a solution with a concentration of 1.5 ppm NO_2^- had been tested, the corrected absorbance would have been closest to which of the following values?

A. 0.15
B. 0.23
C. 0.30
D. 0.36

38. If Experiments 1 and 2 were repeated using a different coloring agent that produces a different color when it binds with NO_2^-, then which of the following changes in procedure would be necessary?

F. The new coloring agent should be added to the blank solution, but not to the sample solutions.
G. Both of the coloring agents should be added to the blank solution and to all of the samples.
H. The absorbance of the blank solution made with the new coloring agent should be added to the measured absorbances.
J. The colorimeter should be set to measure at a different wavelength of light.

39. Based on the results of Experiments 1 and 2, if the measured absorbances for the meats tested in Experiment 2 were compared with their corrected absorbances, the measured absorbances would be:

A. higher for all of the meats tested.
B. lower for all of the meats tested.
C. lower for some of the meats tested, higher for others.
D. the same for all of the meats tested.

40. If some of the water-soluble contents found in all of the meats tested in Experiment 2 absorbed light of the same wavelength as the compound formed with NO_2^- and the coloring agent, how would the measurements have been affected? Compared to the actual NO_2^- concentrations, the NO_2^- concentrations apparently measured would be:

F. higher.
G. lower.
H. the same.
J. higher for some of the meats, lower for others.

END OF TEST 4

STOP! DO NOT RETURN TO ANY OTHER TEST.

072950

Practice Writing Test Prompt 1

Your Signature (do not print): _____

Print Your Name Here: _____

Your Date of Birth:

Month Day Year

Form 1WT

The ACT® Writing Test Booklet

You must take the multiple-choice tests before you take the Writing Test.

Directions

This is a test of your writing skills. You will have thirty (30) minutes to write an essay in English. Before you begin planning and writing your essay, read the writing prompt carefully to understand exactly what you are being asked to do. Your essay will be evaluated on the evidence it provides of your ability to express judgments by taking a position on the issue in the writing prompt; to maintain a focus on the topic throughout the essay; to develop a position by using logical reasoning and by supporting your ideas; to organize ideas in a logical way; and to use language clearly and effectively according to the conventions of standard written English.

You may use the unlined pages in this test booklet to plan your essay. These pages will not be scored. ***You must write your essay in pencil on the lined pages in the answer folder.*** Your writing on those lined pages will be scored. You may not need all the lined pages, but to ensure you have enough room to finish, do NOT skip lines. You may write corrections or additions neatly between the lines of your essay, but do NOT write in the margins of the lined pages. ***Illegible essays cannot be scored, so you must write (or print) clearly.***

If you finish before time is called, you may review your work. Lay your pencil down immediately when time is called.

DO NOT OPEN THIS BOOKLET UNTIL TOLD TO DO SO.

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Practice Writing Test Prompt 1

In some states, legislators have debated whether teenagers should be required to maintain a "C" grade average in school before receiving a driver's license. Some people think this would be a good policy because having passing grades shows that students are responsible enough to be good drivers. Other people think such a policy would not be appropriate because they see no relationship between grades in school and driving skills. In your opinion, should teenagers be required to maintain a "C" average in school before receiving a driver's license?

In your essay, take a position on this question. You may write about either one of the two points of view given, or you may present a different point of view on this question. Use specific reasons and examples to support your position.

Use this page to *plan* your essay.
Your work on this page will *not* be scored.

If you need more space to plan,
please continue on the back of this page.

Use this page to *plan* your essay.
Your work on this page will *not* be scored.

You may wish to photocopy these sample answer document pages to respond to the practice ACT Writing Test.

Please enter the information at the right before beginning the Writing Test.

Use a soft lead pencil only. Do not use ink.

WRITING BOOKLET NUMBER

Print your 6-digit **Booklet Number** in the boxes at the right.

WRITING TEST FORM

Print your 3-character **Test Form** in the boxes above and fill in the corresponding oval at the right.

○ 1WT ○ 2WT ○ 3WT

Begin WRITING TEST here.

If you need more space, please continue on the back of this page.

WRITING TEST

If you need more space, please continue on the next page.

WRITING TEST

If you need more space, please continue on the back of this page.

PLEASE DO NOT WRITE IN THIS AREA.

0876008

WRITING TEST

STOP here with the Writing Test.

English				Mathematics				Readling		Science	
1	**C**	36	**G**	1	**E**	31	**B**	1	**A**	1	**B**
2	**G**	37	**B**	2	**H**	32	**J**	2	**G**	2	**J**
3	**A**	38	**G**	3	**A**	33	**B**	3	**B**	3	**D**
4	**F**	39	**A**	4	**J**	34	**K**	4	**F**	4	**J**
5	**C**	40	**F**	5	**D**	35	**D**	5	**C**	5	**B**
6	**G**	41	**A**	6	**J**	36	**J**	6	**J**	6	**G**
7	**C**	42	**J**	7	**A**	37	**C**	7	**D**	7	**D**
8	**F**	43	**C**	8	**F**	38	**K**	8	**J**	8	**F**
9	**D**	44	**J**	9	**C**	39	**B**	9	**C**	9	**C**
10	**J**	45	**A**	10	**H**	40	**K**	10	**H**	10	**J**
11	**B**	46	**J**	11	**C**	41	**E**	11	**B**	11	**C**
12	**J**	47	**B**	12	**K**	42	**F**	12	**F**	12	**F**
13	**B**	48	**H**	13	**D**	43	**E**	13	**A**	13	**A**
14	**H**	49	**A**	14	**H**	44	**G**	14	**F**	14	**J**
15	**C**	50	**J**	15	**C**	45	**E**	15	**C**	15	**A**
16	**H**	51	**C**	16	**H**	46	**G**	16	**G**	16	**H**
17	**B**	52	**F**	17	**E**	47	**D**	17	**D**	17	**D**
18	**J**	53	**B**	18	**J**	48	**J**	18	**J**	18	**J**
19	**B**	54	**F**	19	**A**	49	**D**	19	**A**	19	**B**
20	**J**	55	**D**	20	**H**	50	**F**	20	**J**	20	**F**
21	**D**	56	**F**	21	**A**	51	**A**	21	**B**	21	**C**
22	**F**	57	**B**	22	**H**	52	**H**	22	**F**	22	**G**
23	**A**	58	**G**	23	**B**	53	**B**	23	**C**	23	**A**
24	**H**	59	**C**	24	**G**	54	**J**	24	**H**	24	**J**
25	**C**	60	**J**	25	**D**	55	**A**	25	**D**	25	**B**
26	**F**	61	**D**	26	**H**	56	**K**	26	**F**	26	**G**
27	**D**	62	**H**	27	**B**	57	**A**	27	**D**	27	**C**
28	**J**	63	**D**	28	**G**	58	**F**	28	**G**	28	**H**
29	**B**	64	**G**	29	**B**	59	**A**	29	**B**	29	**B**
30	**J**	65	**A**	30	**G**	60	**K**	30	**H**	30	**F**
31	**B**	66	**F**					31	**B**	31	**C**
32	**J**	67	**D**					32	**F**	32	**H**
33	**C**	68	**G**					33	**D**	33	**A**
34	**F**	69	**A**					34	**G**	34	**F**
35	**D**	70	**F**					35	**D**	35	**C**
		71	**C**					36	**H**	36	**J**
		72	**H**					37	**B**	37	**B**
		73	**C**					38	**F**	38	**J**
		74	**H**					39	**D**	39	**A**
		75	**D**					40	**H**	40	**F**

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Scale Score Conversion Table
Practice Test 1

Scale Score	Raw Score				Scale Score
	English	Mathematics	Reading	Science	
36	75	60	39–40	40	36
35	74	58–59	38	39	35
34	73	57	37	–	34
33	72	56	36	38	33
32	71	55	35	–	32
31	70	53–54	34	37	31
30	69	52	33	–	30
29	67–68	50–51	32	36	29
28	66	48–49	31	35	28
27	64–65	46–47	30	33–34	27
26	63	44–45	28–29	32	26
25	61–62	41–43	27	30–31	25
24	59–60	39–40	26	29	24
23	57–58	37–38	25	27–28	23
22	54–56	35–36	23–24	26	22
21	52–53	33–34	22	24–25	21
20	49–51	30–32	21	22–23	20
19	46–48	27–29	20	21	19
18	43–45	24–26	19	18–20	18
17	40–42	20–23	18	17	17
16	38–39	17–19	17	15–16	16
15	35–37	14–16	15–16	14	15
14	33–34	12–13	14	12–13	14
13	31–32	9–11	12–13	11	13
12	29–30	8	9–11	10	12
11	26–28	6–7	8	8–9	11
10	24–25	5	6–7	7	10
9	21–23	4	–	6	9
8	17–20	3	5	5	8
7	14–16	–	4	4	7
6	11–13	2	–	3	6
5	9–10	–	3	2	5
4	6–8	–	2	–	4
3	5	1	–	1	3
2	3–4	–	1	–	2
1	0–2	0	0	0	1