080659

Practice Test 2

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The ACT

Form 2MC

2008 | 2009

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 A BALLPOINT PEN.*

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.

DO NOT OPEN THIS BOOKLET UNTIL TOLD TO DO SO.

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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

Grandpa's Remote Control

[1]

My grandfather is not known for embracing

technological change. He still drives his '59 Chevy
                                                    1

Impala. (He says, he can't imagine needing frivolous
           2

options like automatic transmission or power steering.)

So, when he has went to buy a new color television—
                    3

owing to the knowledge that his old black-and-white
                    4

model had finally quit—and the salesperson tried to talk

him into buying a model with a remote control, he resisted.

He said that he had two good legs and was perfectly

capable of getting out of his chair. [5]

[2]

However, the salesperson was persistent and,

appealing to Grandpa's TV-viewing habits, described the

1. A. NO CHANGE
   B. change he still drives
   C. change still driving,
   D. change, and still driving

2. F. NO CHANGE
   G. says
   H. says, that
   J. says, that,

3. A. NO CHANGE
   B. had went
   C. went
   D. goes

4. F. NO CHANGE
   G. due to the understandable fact that
   H. because
   J. so

5. Given that all are true, which of the following additions to the preceding sentence (replacing "chair.") would be most relevant?
   A. chair that was made of black leather.
   B. chair when he wanted to change the channel.
   C. chair by the south window in the family room.
   D. chair where he liked to sit.

GO ON TO THE NEXT PAGE.

various functions on the remote. However, my grandpa
                                                    6

could punch in the time, and the channel of his favorite
                          7
daily news program, and the TV would turn on that

program at the proper time. In the end, Grandpa did buy

the remote, and it has since become something he uses all

the time.

[3]

Grandpa is intrigued by the various uses for that

remote. He has confided in me that the volume control is

perfect for turning up the sound whenever Grandma asks

him to take out the garbage. For example, he says, the
                                   8

button that mutes the sound lets him cut them off in
                                            9
midsentence.

[4]

Grandpa's favorite feature on the remote is the sleep

function. This option automatically turns the TV off after a

preset amount of time, which is very convenient when he
                                        10

falls asleep while watching a show. For him, Grandpa says
                                      11
what he wants his TV doing, even when he sleeps, is to
                                      11
know a source of both pleasure and power.
                11
[5]

[1] As for the programming function, Grandpa not

only uses it for the news but also for playing jokes on his

6. F. NO CHANGE
   G. Additionally, Grandpa
   H. Conversely, my grandpa
   J. Grandpa

7. A. NO CHANGE
   B. time and, the channel,
   C. time and the channel
   D. time and the channel,

8. F. NO CHANGE
   G. To illustrate,
   H. On the one hand,
   J. On the other hand,

9. A. NO CHANGE
   B. advertisers
   C. it
   D. its function

10. F. NO CHANGE
   G. convenient, when
   H. convenient. When
   J. convenient; when

11. A. NO CHANGE
   B. Even when he sleeps, Grandpa says that to know
       his TV is doing what he wants is a source of both
       pleasure and power for him.
   C. Doing what he wants, even when he sleeps, is to
       know his TV is a source of both pleasure and
       power for him, Grandpa says.
   D. Grandpa says that to know his TV is doing what he
       wants, even when he sleeps, is a source of both
       pleasure and power for him.

Practice ACT Tests

GO ON TO THE NEXT PAGE.

youngest grandchildren. [2] Explaining to the unsuspecting
child that he has a remote control implanted in his little
finger, Grandpa points his finger at the TV and, to the
                     12
child's amazement, seemingly turns it on. [3] I suppose
Grandpa hasn't learned all the possible uses of the remote
control, but I don't doubt he will continue to discover new
                     13
and creative ways of using it. 14
        13

12. **F.** NO CHANGE
    G. pointing
    H. having pointed
    J. Grandpa has pointed

13. Which of the choices would provide an ending most consistent with the essay as a whole?
    A. NO CHANGE
    B. and he probably won't bother learning them either.
    C. so the salesperson should explain how to interpret the 200-page manual.
    D. and Grandma gratefully acknowledges this.

14. Upon reviewing Paragraph 5 and realizing that some information has been left out, the writer composes the following sentence:

    > He programs the TV to turn on at a time when a grandchild will be visiting.

    The most logical placement for this sentence would be:

    F. before Sentence 1.
    G. after Sentence 1.
    H. after Sentence 2.
    J. after Sentence 3.

    ┌───┐
    │ Question 15 asks about the preceding passage │
    │ as a whole.   │
    └───┘

15. The writer is considering deleting the first sentence from Paragraph 3. If the writer removed this sentence, the essay would primarily lose:
    A. information about the intriguing uses of the remote.
    B. details supporting the fact that Grandpa liked using the remote.
    C. a humorous blend of descriptive details and relevant information.
    D. a transition from the first two paragraphs to the rest of the essay.

PASSAGE II

Tejano Music and Its Meadowlark

One of the liveliest folk music forms to develop
              16
in the twentieth century is Tejano music. Also known as

Tex-Mex or border music because of it's having origins on
                                     17
both sides of the Texas-Mexico border, this form combines

16. **F.** NO CHANGE
    G. One of the most liveliest
    H. The most lively
    J. The liveliest

17. **A.** NO CHANGE
    B. its
    C. it's
    D. its'

GO ON TO THE NEXT PAGE.

elements from Spanish, German, and English musical traditions.

In the late nineteenth century, German immigrants to south Texas and northern Mexico brought with them their dance music [18] and the button accordion. The music and the instrument were adopted by musicians in that region,

who began to use the accordion, in their own dance music, *huapangos* and *rancheras*. At the same time, the Spanish and English folk ballad traditions took root in Tejano music in the form of *corridos*, narrative songs of bravery, romance, and tragedy set in the towns and ranches of the region. Eventually, a unique musical style developed; based on duet singing and an instrumentation of accordion, drums, upright bass, and *bajo sexto*, the Spanish twelve-string bass guitar. It was *conjunto* and became the heart of Tejano music.

[1] The first Tejano musician to gain star status was Lydia Mendoza. [2] She was born in Mexico in 1916, but her family soon immigrated to the United States. [3] The Mendoza family made their living working alternately as

field hands and they were touring musicians. [4] Mendoza

18. At this point, the writer is considering adding the following parenthetical phrase:
— polkas and waltzes —
Given that it is true, would this be a relevant addition to make here?
   F. Yes, because it can help the reader have a better understanding of the music being referred to.
   G. Yes, because it helps explain to the reader why this music became so popular.
   H. No, because it fails to explain the connection between this music and the button accordion.
   J. No, because it is inconsistent with the style of this essay to mention specific musical forms.

19. A. NO CHANGE
   B. accordion in their own dance music,
   C. accordion, in their own dance music
   D. accordion in their own dance music

20. F. NO CHANGE
   G. style developed based on
   H. style developed based on,
   J. style, developed based on

21. A. NO CHANGE
   B. This style, known as *conjunto*,
   C. Being known as *conjunto*, it
   D. It being *conjunto*

22. Which of the following alternatives to the underlined portion would NOT be acceptable?
   F. earned their living by
   G. made their living from
   H. made their living on
   J. earned their living

23. A. NO CHANGE
   B. as well
   C. being
   D. as

GO ON TO THE NEXT PAGE.

Practice ACT Tests

learned the words to many of her songs from bubble gum

wrappers, where music publishers had song lyrics printed

in the hope of making them popular. [24] [5] In 1928

in San Antonio, Texas, where Mendoza and her
25

family made their first recording. [6] Her clear and

expressive singing style soon gained her widespread

popularity in the Spanish-speaking regions of
26

North and South America. [27]

Others have followed Lydia Mendoza's lead

and have immigrated to the United States from Mexico.
28

Like other folk music forms, Tejano music has an

intensity, literary richness, and rhythmic variety that

means it'll stick around a while.
29

24. The writer is considering deleting the following clause from the preceding sentence (placing a period after the word *wrappers*):

> where music publishers had song lyrics printed in the hope of making them popular

Should the writer make this deletion?

- **F.** Yes, because the information is unrelated to the topic addressed in this paragraph.
- **G.** Yes, because the information diminishes the musical accomplishments and successes of Lydia Mendoza and her family.
- **H.** No, because the information explains the reference to bubble gum wrappers, which might otherwise puzzle readers.
- **J.** No, because the information shows how popular the songs were that Lydia Mendoza performed.

25. A. NO CHANGE
  B. it was there that
  C. was where
  D. OMIT the underlined portion.

26. F. NO CHANGE
  G. popularity: in the Spanish-speaking regions
  H. popularity, in the Spanish-speaking regions,
  J. popularity in the Spanish-speaking regions,

27. Upon reviewing this paragraph and finding that some information has been left out, the writer composes the following sentence incorporating that information:

> She became widely known as La Alondra de la Frontera (The Meadowlark of the Border).

This sentence would most logically be placed after Sentence:

- **A.** 3.
- **B.** 4.
- **C.** 5.
- **D.** 6.

28. Given that all of the choices are true, which one would most effectively tie together the two main subjects of this essay?

- **F.** NO CHANGE
- **G.** and have expanded the influence of Tejano music.
- **H.** such as Santiago Jiménez and his son Flaco.
- **J.** and have signed large recording contracts.

29. A. NO CHANGE
  B. causes it to be one of those enduring things with a timeless appeal.
  C. makes lots of people really like it.
  D. ensures its continued vitality.

Question 30 asks about the preceding passage as a whole.

30. Suppose the writer's goal had been to write a brief essay focusing on the history and development of Tejano music. Would this essay successfully fulfill that goal?
   F. Yes, because the essay describes the origins of Tejano music and one of its early important figures.
   G. Yes, because the essay mentions the contributions that Tejano music has made to other folk music traditions.
   H. No, because the essay refers to other musical forms besides Tejano music.
   J. No, because the essay focuses on only one Tejano musician, Lydia Mendoza.

PASSAGE III

"Topping Out" the Gateway Arch

During the early morning hours of October 28, 1965, engineers stationed 630 feet above the ground
   31

made careful measurements for the days work.
                                        32

The results indicated a problem that threatened to
                                               33

postpone and delay the topping-out ceremony marking
              34
the placement of the final section between the two

freestanding legs of the St. Louis Gateway Arch. 35

31. A. NO CHANGE
   B. 1965, and engineers
   C. 1965. Engineers
   D. 1965; engineers

32. F. NO CHANGE
   G. days'
   H. day's
   J. days's

33. A. NO CHANGE
   B. had been threatened
   C. will have threatened
   D. threatens

34. F. NO CHANGE
   G. to a later time
   H. by delaying
   J. OMIT the underlined portion.

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

   marking the placement of the final section between the two freestanding legs of the St. Louis Gateway Arch

   If the writer were to delete this phrase, the essay would primarily lose:
   A. a minor detail in the essay's opening paragraph.
   B. an explanation of the term "topping-out ceremony."
   C. the writer's opinion about the significance of the topping-out ceremony.
   D. an indication of the topping-out ceremony's importance to the people of St. Louis.

GO ON TO THE NEXT PAGE.

Thirty-two years of planning and effort resulted

in this moment. In 1933, attorney and civic leader
                                              _____
                                                  36
Luther Ely Smith envisioned a memorial that would

recognize St. Louis's major role in the westward

expansion of the United States. [37] Architect

Eero Saarinen, who created the design that symbolized
              _____
                        38
the memorial's theme of St. Louis as the "Gateway to the

West." Meanwhile, the arch would have a stainless steel
       _____
              39
exterior and interior structural supports made of concrete.

Both legs of the arch would be built simultaneously using

triangular sections. Those at the base of each arch leg

would be the largest, with the higher sections

progressively smaller.

After nearly three years of construction, the day had

come to place the final section at the top of the arch and

finish the project. But a problem had arisen. The engineers

confirmed that the heat of the sun had caused the south leg

of the arch to expand five inches. This small but critical

deviation caused concern that the two legs and the final

section might not connect properly. The engineers

called in local firefighters in the hope that spraying

the leg with water to cool it would make it contract.
                                               _____
                                                   40
The firefighters, using 700 feet of hose, were able

to reach as high as 550 feet on the south leg in

36. **F.** NO CHANGE
 G. attorney, and civic leader
 H. attorney and civic leader,
 J. attorney, and civic leader,

37. If the writer were to delete the preceding sentence, the paragraph would primarily lose:
 A. an explanation of why St. Louis had a major role in the westward expansion of the United States.
 B. details about what Luther Ely Smith thought the memorial he envisioned should look like.
 C. background information about the history leading to the Gateway Arch.
 D. biographical information about Luther Ely Smith.

38. **F.** NO CHANGE
 G. Saarinen, creator of
 H. Saarinen created
 J. Saarinen creating

39. **A.** NO CHANGE
 B. Therefore, the
 C. However, the
 D. The

40. **F.** NO CHANGE
 G. reduce.
 H. decrease.
 J. compress.

GO ON TO THE NEXT PAGE.

ley're attempt to reduce its expansion.
41

The plan worked. By late morning,

ne crowd cheered as, welded to the two legs of
42
he arch, the final section was hoisted up. Over three
42

lecades and more than thirty years of planning and
43

uilding had come to a conclusion, and the tallest
44
nonument in the United States was now complete.

41. **A.** NO CHANGE
    B. they're attempt to reduce it's
    C. their attempt to reduce its
    D. their attempt to reduce it's

42. **F.** NO CHANGE
    G. as the crowd cheered, the final section was hoisted up and welded to the two legs of the arch.
    H. as the crowd cheered, welded to the two legs of the arch, the final section was hoisted up.
    J. the final section was hoisted up as the crowd cheered and welded to the two legs of the arch.

43. **A.** NO CHANGE
    B. decades amounting to more than thirty years
    C. decades—over thirty years—
    D. decades

44. Which of the following alternatives to the underlined portion would be LEAST acceptable in terms of the context of this sentence?
    F. reached completion,
    G. come to a halt,
    H. come to an end,
    J. ended,

Question 45 asks about the preceding passage as a whole.

---

45. Suppose the writer had intended to write a brief essay that describes the entire process of designing and building the St. Louis Gateway Arch. Would this essay successfully fulfill the writer's goal?
    A. Yes, because it offers such details as the materials used to make the exterior and the interior structural supports.
    B. Yes, because it explains in detail each step in the design and construction of the arch.
    C. No, because it focuses primarily on one point in the development of the arch rather than on the entire process.
    D. No, because it is primarily a historical essay about the early stages in the development of the arch.

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PASSAGE IV

Our Place in the World

In the dusk of a late summer evening, I walked
___
46
quietly with a small gathering of people toward a

shelter at the edge of a field in northern Indiana.

Although I had never met more of the people who
___
47

walked with me, a few of them I did know quite well.
___
48
We were Miami Indians, and we had waited years to

make this journey across Miami land into a ceremonial
___
49

longhouse made of saplings and earth. [50]

For years I had seen other Miami's pictures—
___
51
many of them the ancestors of the

people, who walked along with me,
___
52
to the longhouse that summer evening.

46. F. NO CHANGE
    G. On
    H. With
    J. From

47. A. NO CHANGE
    B. more of the people whom
    C. most of the people who
    D. most of the people whom

48. The writer wants to balance the statement made in the earlier part of this sentence with a related detail that suggests the unity of the people. Given that all of the choices are true, which one best accomplishes this goal?
    F. NO CHANGE
    G. we each had our own personal reasons for being there.
    H. I hoped I could get to know some of them.
    J. I felt a kinship with them.

49. Which of the following alternatives to the underlined portion would NOT be acceptable?
    A. among
    B. over
    C. on
    D. through

50. The writer is considering revising the preceding sentence by deleting the phrase "into a ceremonial longhouse made of saplings and earth" (placing a period after the word *land*). If the writer did this, the paragraph would primarily lose:
    F. information comparing the narrator's own journey to similar ones made by members of other tribes.
    G. details describing the destination of the people the narrator is traveling with.
    H. details that establish the time and place of the events in the essay.
    J. interesting but irrelevant information about the Miami.

51. A. NO CHANGE
    B. pictures in which other Miami were present—
    C. pictures of other Miami—
    D. other Miami whose pictures had been taken—

52. F. NO CHANGE
    G. people who, walked along with me
    H. people, who walked along, with me
    J. people who walked along with me

GO ON TO THE NEXT PAGE.

1y mother and grandmother helped preserve tribal
$\overline{53}$

istory by collecting books and newspaper clippings.
$\overline{53}$

ooks describing the history and culture of the Miami

eople lined the bookshelves, and framed photos of Miami

ned the walls of these rooms. While I was growing up I

ften found my mother and grandmother each sitting

uietly in her own room, reading old letters or listening

) the music of Native American drums.

That room contained everything I knew about being a
$\overline{54}$

Miami, and unlike the larger Plains tribes, the Miami had
$\overline{55}$

etained no reservation lands. Once a year, the tribe held a

owwow that was always well attended. This social
$\overline{56}$

athering was the only tribal event that my grandmother or

nother had ever participated in. For generations, the tribe

ad owned no land on which a longhouse could be built

nd Miami religious ceremonies conducted. Because of
$\overline{57}$

his, I had never attended a Miami religious ceremony,

ever danced in front of a crowd of Miami. Still, I had
$\overline{58}$

ever known any other Miami children outside of my

)wn family.

When the tribal council was able to purchase land

ind build a longhouse, my mother, grandmother, and I

raveled to the summer ceremony. As we walked together

hrough the open field that evening, hundreds of tiny

ireflies flashing softly from the tall grasses. The
$\overline{59}$

nsects lit our path like the spirits of ancestors
$\overline{60}$

iccompanying us home.

---

53. Given that all of the choices are true, which one would
most effectively lead the reader from the first sentence
of this paragraph to the description that follows in the
next two sentences?
A. NO CHANGE
B. Some of those pictures had been reprinted in
books my mother and grandmother collected.
C. My grandmother and mother proudly displayed
those pictures in their houses.
D. Like many Miami, my grandmother and mother
had each dedicated a room in her own house to the
tribe.

54. F. NO CHANGE
G. Her rooms
H. Those rooms
J. This room

55. A. NO CHANGE
B. Miami unlike
C. Miami, unlike
D. Miami. Unlike

56. Given that all of the choices are true, which one pro-
vides information most relevant to the main focus of
this paragraph?
F. NO CHANGE
G. notable for its exquisite dancing.
H. on borrowed land.
J. that lasted several days.

57. A. NO CHANGE
B. Miami ceremonies were conducted there.
C. there were Miami ceremonies conducted there.
D. the conducting of Miami ceremonies.

58. F. NO CHANGE
G. Meanwhile,
H. In fact,
J. On the other hand,

59. A. NO CHANGE
B. fireflies, which flashed
C. fireflies that flashed
D. fireflies flashed

60. F. NO CHANGE
G. just as
H. as like
J. such as

GO ON TO THE NEXT PAGE.

PASSAGE V

Why Wolves Howl

Why do wolves howl? Thanks to the work of
naturalists and animal behaviorists, we know wolves are
highly social animals that live in structured packs and that
communicate using a variety of sounds, including whining,
growling, and barking. Howling, the sound most often

associated with wolves, by themselves perform several key
social functions within wolf packs.

One of these, self-defense, which includes protecting
territory. Packs claim sections of land as private hunting
and living spaces and will howl to warn away potential
intruders, those are usually other wolves. This "Keep Out"

warning serves as a peacekeeping technique because it
helps prevent competing packs from warring over prey,
fighting for mates, or otherwise interfering with pack life.

Wolves also howl to locate and communicate with
one another over long distances. Like their dog
descendants, wolves possess intense hearing, which
makes it possible for them to pick up the sound of howling

from as far away as ten miles. Frequently, common
activities, such as hunting for prey, often

---

61. A. NO CHANGE
    B. Howling has been
    C. While howling is
    D. Howling is

62. F. NO CHANGE
    G. on themselves perform
    H. by itself performs
    J. on itself performs

63. A. NO CHANGE
    B. One of these is
    C. One being
    D. One,

64. F. NO CHANGE
    G. most often these are
    H. and are typically
    J. usually

65. Which of the following alternatives to the underlined portion would be the LEAST acceptable?
    A. although
    B. in that
    C. since
    D. as

66. F. NO CHANGE
    G. It's also the case that howling is employed
    H. In addition, howling is a way
    J. Howling is also used

67. A. NO CHANGE
    B. cunning
    C. acute
    D. vivid

68. F. NO CHANGE
    G. Quite regularly, common
    H. Many times, common
    J. Common

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:all upon animals' sharp instincts; in order to reunite,
                                        69
he separated wolves howl to one another.

Finally, wolves use howling in the pack's social
  70
·ituals. Upon waking, pack members howl morning

greetings while wagging their tails, they nuzzle each other,
                                        71
ind engaging in mock fights. Before leaving on a hunt, the

pack gathers for a "group sing" called chorus howling.

Usually begun by the alpha or, dominant, pair of wolves,
                        72

:he pack is excited in preparation for the hunt partly by
                                        73
:horus howling. The collective sound of wolves howling
  73

in various keys also make the pack seem larger and more
                        74
powerful to potential enemies than it really is.

Further study of wolves will likely uncover still more

reasons for their howling. What's already clear, is that the
                                        75
stereotypical image of the lone wolf howling at the full

moon obscures the importance howling has in the social

life of these animals.

69. Given that all of the choices are true, which one pro-
    vides the most logical cause for the action described in
    the statement immediately following this underlined
    portion?
    A. NO CHANGE
    B. disperse a pack over large areas of land;
    C. require the pack to travel some distance;
    D. involve the entire pack;

70. F. NO CHANGE
    G. Nevertheless,
    H. Second,
    J. Thus,

71. A. NO CHANGE
    B. nuzzling
    C. nuzzled
    D. nuzzle

72. F. NO CHANGE
    G. alpha, or dominant, pair
    H. alpha or dominant pair,
    J. alpha or, dominant pair

73. A. NO CHANGE
    B. the purpose of chorus howling is to help excite the
       pack in preparation for the hunt.
    C. excitement in the pack is raised, in preparation for
       the hunt, by chorus howling.
    D. chorus howling helps excite the pack in prepa-
       ration for the hunt.

74. F. NO CHANGE
    G. have the effect of making
    H. are intended to make
    J. makes

75. A. NO CHANGE
    B. clear is that,
    C. clear is, that
    D. clear is that

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. A restaurant occupying the top floor of a skyscraper rotates as diners enjoy the view. Ling and Sarah notice that they began their meal at 7:00 P.M. looking due north. At 7:45 P.M. they had rotated 180° to a view that was due south. At this rate, how many degrees will the restaurant rotate in 1 hour?
   A. 90°
   B. 180°
   C. 240°
   D. 270°
   E. 400°

2. If 12 vases cost $18.00, what is the cost of 1 vase?
   F. $0.67
   G. $1.05
   H. $1.33
   J. $1.50
   K. $1.60

3. Your friend shows you a scale drawing of her apartment. The drawing of the apartment is a rectangle 4 inches by 6 inches. Your friend wants to know the length of the shorter side of the apartment. If she knows that the length of the longer side of the apartment is 30 feet, how many feet long is the shorter side of her apartment?
   A. 9
   B. 20
   C. 24
   D. 30
   E. 45

4. A company earned a profit of $8.0 million each year for 3 consecutive years. For each of the next 2 years the company earned a profit of $9.0 million. For this 5-year period, what was the company's average yearly profit, in millions of dollars?
   F. 8.2
   G. 8.25
   H. 8.4
   J. 8.5
   K. 8.6
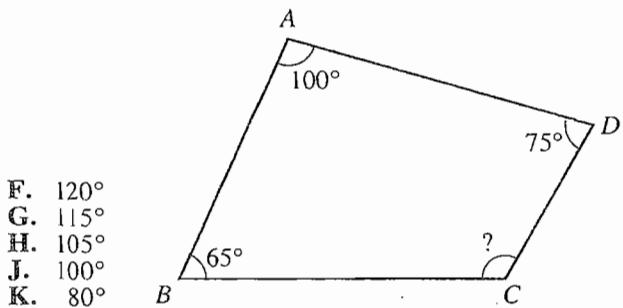
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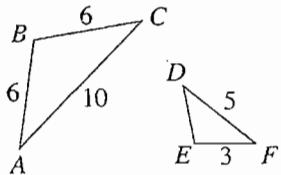
5. A company rents moving vans for a rental fee of $25.00 per day with an additional charge of $0.30 per mile that the van is driven. Which of the following expressions represents the cost, in dollars, of renting a van for 1 day and driving it m miles?

A. $0.30m + 25$
B. $25m + 30$
C. $30m + 25$
D. $25.30m$
E. $55m$

DO YOUR FIGURING HERE.

6. The figure below shows quadrilateral $ABCD$. What is the measure of $\angle C$?

F. $120°$
G. $115°$
H. $105°$
J. $100°$
K. $80°$

7. In the figure below, $\triangle ABC$ and $\triangle DEF$ are similar triangles with the given side lengths in meters. What is the perimeter, in meters, of $\triangle DEF$?

A. 3
B. 8
C. 11
D. 12
E. 13

8. The relationship between temperature in degrees Fahrenheit, F, and temperature in degrees Celsius, C, is expressed by the formula $F = \frac{9}{5}C + 32$. Calvin reads a temperature of $38°$ on a Celsius thermometer. To the nearest degree, what is the equivalent temperature on a Fahrenheit thermometer?

F. $36°$
G. $53°$
H. $68°$
J. $70°$
K. $100°$

Practice ACT Tests

GO ON TO THE NEXT PAGE.

DO YOUR FIGURING HERE.

9. Nick needs to order 500 pens from his supplier. The catalog shows that these pens come in cases of 24 boxes with 10 pens in each box. Nick knows that he may NOT order partial cases. What is the fewest number of cases he should order?

   A. 2
   B. 3
   C. 18
   D. 21
   E. 50

10. When $a + b = 6$, what is the value of

   $2(a + b) + \dfrac{a + b}{6} + (a + b)^2 - 2$?

   F. 23
   G. 37
   H. 38
   J. 43
   K. 47

11. The cost of a hamburger and a soft drink together is $2.10. The cost of 2 hamburgers and a soft drink together is $3.50. What is the cost of a soft drink?

   A. $0.50
   B. $0.55
   C. $0.70
   D. $1.05
   E. $1.40

12. If $12x = -8(10 - x)$, then $x = $?

   F. 20

   G. 8

   H. $7\frac{3}{11}$

   J. $6\frac{2}{13}$

   K. −20

13. Shannon is planning to tile a rectangular kitchen countertop that is 24 inches wide and 64 inches long. She determined that 1 tile will be needed for each 4-inch-by-4-inch region. What is the minimum number of tiles that will be needed to completely cover the countertop to its edges?

   A. 44
   B. 88
   C. 96
   D. 176
   E. 384

14. Which of the following lists gives 2 of the 3 interior angle measurements of a triangle for which the 3rd angle measurement would be equal to 1 of the 2 given measurements?

   F. 20°, 40°
   G. 30°, 60°
   H. 40°, 100°
   J. 45°, 120°
   K. 50°, 60°

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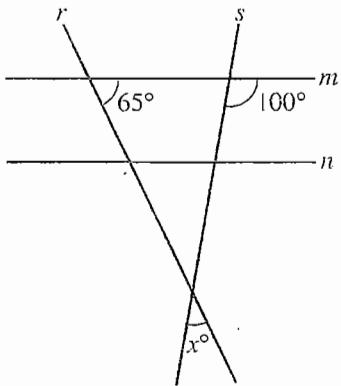
5. A triangle with a perimeter of 66 inches has one side that is 16 inches long. The lengths of the other two sides have a ratio of 2:3. What is the length, in inches, of the *longest* side of the triangle?

A. 16
B. 20
C. 30
D. 40
E. 50

6. What is the y-intercept of the line in the standard (x,y) coordinate plane that goes through the points $(-3,6)$ and $(3,2)$?

F. 0
G. 2
H. 4
J. 6
K. 8

17. In the figure below, lines m and n are parallel, transversals r and s intersect to form an angle of measure $x°$, and 2 other angle measures are as marked. What is the value of x ?

A. 15
B. 25
C. 35
D. 65
E. 80

18. The depth of a pond is 180 cm and is being reduced by 1 cm per week. The depth of a second pond is 160 cm and is being reduced by $\frac{1}{2}$ cm per week. If the depths of both ponds continue to be reduced at these constant rates, in about how many weeks will the ponds have the same depth?

F. 10
G. 20
H. 40
J. 80
K. 140

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307
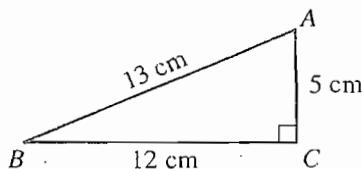
19. When graphed in the standard (x,y) coordinate plane, which of the following equations does NOT represent a line?

A. $x = 4$

B. $3y = 6$

C. $x - y = 1$

D. $y = \frac{3}{4}x - 2$

E. $x^2 + y = 5$

20. In the right triangle shown below, which of the following statements is true about $\angle A$?

F. $\cos A = \frac{12}{13}$

G. $\sin A = \frac{12}{13}$

H. $\tan A = \frac{12}{13}$

J. $\cos A = \frac{13}{12}$

K. $\sin A = \frac{13}{12}$

21. What is the slope of any line parallel to the line $7x + 9y = 6$?

A. -7

B. $-\frac{7}{9}$

C. $\frac{7}{6}$

D. 6

E. 7

22. The braking distance, y feet, for Damon's car to come to a complete stop is modeled by $y = \frac{3(x^2 + 10x)}{40}$, where x is the speed of the car in miles per hour. According to this model, which of the following is the maximum speed, in miles per hour, Damon can be driving so that the braking distance is less than or equal to 150 feet?

F. 10
G. 30
H. 40
J. 50
K. 60

GO ON TO THE NEXT PAGE.

23. If $f(x) = x^2 + x + 5$ and $g(x) = \sqrt{x}$, then what is the value of $\frac{g(4)}{f(1)}$?

A. $\frac{2}{7}$

B. $\frac{25}{7}$

C. $\frac{2}{25}$

D. 2

E. 4

DO YOUR FIGURING HERE.

24. At a school picnic, 1 junior and 1 senior will be selected to lead the activities. If there are 125 juniors and 100 seniors at the picnic, how many different 2-person combinations of 1 junior and 1 senior are possible?

F.   25
G.   100
H.   125
J.   225
K. 12,500

25. A ramp for wheelchair access to the gym has a slope of 5% (that is, the ramp rises 5 feet vertically for every 100 feet of horizontal distance). The entire ramp is built on level ground, and the entrance to the gym is 2 feet above the ground. What is the *horizontal* distance, in feet, between the ends of the ramp?

A.   4
B.   10
C.   40
D.   100
E.   400

26. The temperature, t, in degrees Fahrenheit, in a certain town on a certain spring day satisfies the inequality $|t - 24| \le 30$. Which of the following temperatures, in degrees Fahrenheit, is NOT in this range?

F.   −10
G.   −6
H.   −5
J.   0
K.   54

27. If 5 times a number n is subtracted from 15, the result is negative. Which of the following gives the possible value(s) for n ?

A.   0 only
B.   3 only
C.   10 only
D.   All $n > 3$
E.   All $n < 3$

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28. $(x^2 - 4x + 3) - (3x^2 - 4x - 3)$ is equivalent to:
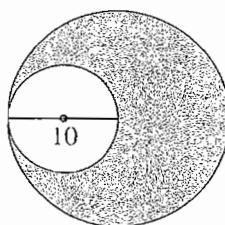
F. $2x^2 - 6$
G. $2x^2 - 8x$
H. $2x^2 - 8x - 6$
J. $-2x^2 + 6$
K. $-2x^2 - 8x$

29. The median of a set of data containing 9 items was found. Four data items were added to the set. Two of these items were greater than the original median, and the other 2 items were less than the original median. Which of the following statements *must* be true about the median of the new data set?

A. It is the average of the 2 new lower values.
B. It is the same as the original median.
C. It is the average of the 2 new higher values.
D. It is greater than the original median.
E. It is less than the original median.

30. The figure below shows 2 tangent circles such that the 10-centimeter diameter of the smaller circle is equal to the radius of the larger circle. What is the area, in square centimeters, of the shaded region?

F. 10
G. 75
H. 5π
J. 10π
K. 75π
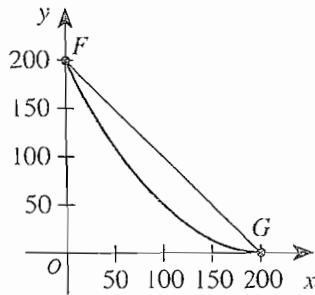
31. Which of the following sets of 3 numbers could be the side lengths, in meters, of a 30°-60°-90° triangle?

A. $1, 1, 1$
B. $1, 1, \sqrt{2}$
C. $1, \sqrt{2}, \sqrt{2}$
D. $1, \sqrt{2}, \sqrt{3}$
E. $1, \sqrt{3}, 2$

> Use the following information to answer questions 32–34.

The curve $y = 0.005x^2 - 2x + 200$ for $0 \leq x \leq 200$ and the line segment from $F(0,200)$ to $G(200,0)$ are shown in the standard (x,y) coordinate plane below.

DO YOUR FIGURING HERE.

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310
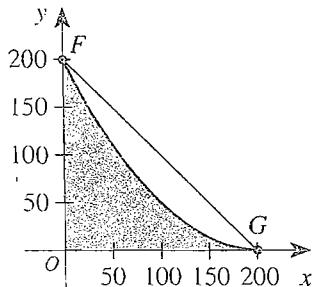
32. What is the *y*-coordinate for the point on the curve with *x*-coordinate 20 ?

F. 160
G. 162
H. 164
J. 166
K. 168

33. The length of this curve is longer than $\overline{FG}$. About how many coordinate units long is $\overline{FG}$?

A. 20
B. 141
C. 200
D. 283
E. 400

34. Tran wants to approximate the area underneath the curve $y = 0.005x^2 - 2x + 200$ for $0 \le x \le 200$, shown shaded in the graph below.

He finds an initial estimate, *A*, for the

shaded area by using $\overline{FG}$ and computing

$A = \frac{1}{2}(200 \text{ units})(200 \text{ units}) = 20{,}000 \text{ square units}.$

The area of the shaded region is:

F. less than 20,000 square units, because the curve lies under $\overline{FG}$.
G. less than 20,000 square units, because the curve lies over $\overline{FG}$.
H. equal to 20,000 square units.
J. greater than 20,000 square units, because the curve lies under $\overline{FG}$.
K. greater than 20,000 square units, because the curve lies over $\overline{FG}$.

Practice ACT Tests
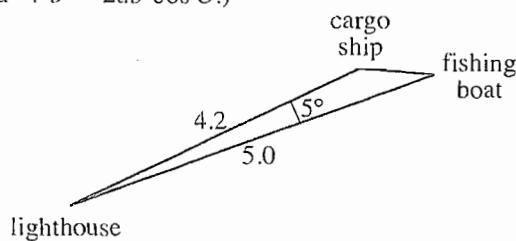
35. A cargo ship is 4.2 miles from a lighthouse, and a fishing boat is 5.0 miles from the lighthouse, as shown below. The angle between the straight lines from the lighthouse to the 2 vessels is 5°. The approximate distance, in miles, from the cargo ship to the fishing boat is given by which of the following expressions?

(Note: The law of cosines states that for any triangle with vertices A, B, and C and the sides opposite those vertices with lengths a, b, and c, respectively, $c^2 = a^2 + b^2 - 2ab \cos C$.)

A. $\sqrt{(5.0)^2 - (4.2)^2}$

B. $\sqrt{(4.2)^2 + (5.0)^2 - 2 \cdot 4.2 \cdot 5.0 \cos 5°}$

C. $\sqrt{(4.2)^2 + (5.0)^2 + 2 \cdot 4.2 \cdot 5.0 \cos 5°}$

D. $\sqrt{(4.2)^2 + (5.0)^2 - 2 \cdot 4.2 \cdot 5.0 \cos 85°}$

E. $\sqrt{(4.2)^2 + (5.0)^2 + 2 \cdot 4.2 \cdot 5.0 \cos 85°}$

36. Which of the following equations expresses c in terms of a for all real numbers a, b, and c such that $a^3 = b$ and $b^2 = c$?

F. $c = a^6$

G. $c = a^5$

H. $c = 2a^3$

J. $c = \frac{1}{2}a$

K. $c = a$

37. Which of the following statements is NOT true about the arithmetic sequence $17, 12, 7, 2, \cdots$?

A. The fifth term is –3.
B. The sum of the first 5 terms is 35.
C. The eighth term is –18.
D. The common difference of consecutive terms is –5.
E. The common ratio of consecutive terms is –5.

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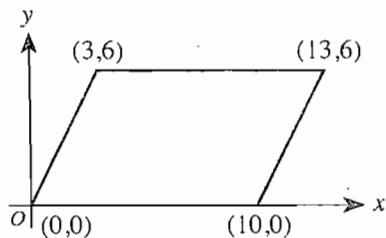
DO YOUR FIGURING HERE.

38. In the standard (x,y) coordinate plane below, the points $(0,0)$, $(10,0)$, $(13,6)$, and $(3,6)$ are the vertices of a parallelogram. What is the area, in square coordinate units, of the parallelogram?

F. 30
G. 60
H. $30\sqrt{3}$
J. $30\sqrt{5}$
K. $60\sqrt{5}$

39. The normal amount of lead in a certain water supply is 1.5×10^{-5} milligrams per liter. Today, when the water was tested, the lead level found was exactly 100 times as great as the normal level, still well below the Environmental Protection Agency's action level. What concentration of lead, in milligrams per liter, was in the water tested today?

A. 1.5×10^{-105}
B. 1.5×10^{-10}
C. 1.5×10^{-7}
D. 1.5×10^{-3}
E. $1.5 \times 10^{-\frac{5}{2}}$

40. A certain perfect square has exactly 4 digits (that is, it is an integer between 1,000 and 9,999). The positive square root of the perfect square must have how many digits?

F. 1
G. 2
H. 3
J. 4
K. Cannot be determined from the given information

41. $\left(\frac{1}{2}x - y\right)^2 = ?$

A. $\frac{1}{4}x^2 + y^2$

B. $\frac{1}{4}x^2 - xy + y^2$

C. $\frac{1}{2}x^2 - xy + y^2$

D. $x^2 + y^2$

E. $x^2 - xy + y^2$

GO ON TO THE NEXT PAGE.

42. What is the matrix product $\begin{bmatrix} a \\ 2a \\ 3a \end{bmatrix} [1 \quad 0 \quad -1]$?

F. $\begin{bmatrix} a & 0 & -a \\ 2a & 0 & -2a \\ 3a & 0 & -3a \end{bmatrix}$
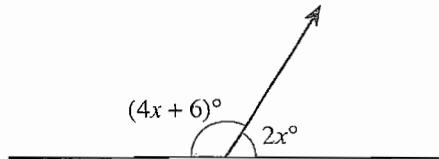
G. $\begin{bmatrix} a & 2a & 3a \\ 0 & 0 & 0 \\ -a & -2a & -3a \end{bmatrix}$

H. $[2a \quad 0 \quad -2a]$

J. $[6a \quad 0 \quad -6a]$

K. $[0]$

43. What is the degree measure of the smaller of the 2 angles formed by the line and the ray shown in the figure below?

A. $14°$
B. $28°$
C. $29°$
D. $58°$
· E. Cannot be determined from the given information

44. How many prime numbers are there between 30 and 50 ?

F. 4
G. 5
H. 6
J. 7
K. 8

45. The lengths, in feet, of the sides of right triangle $\triangle ABC$ are as shown in the diagram below, with $x > 0$. What is the cotangent of $\angle A$, in terms of x ?
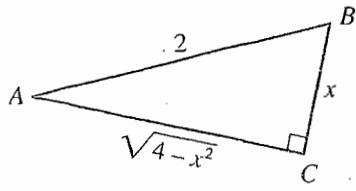
A. $\sqrt{4 - x^2}$

B. $\dfrac{2}{x}$

C. $\dfrac{x}{2}$

D. $-\dfrac{x}{\sqrt{4 - x^2}}$

E. $\dfrac{\sqrt{4 - x^2}}{x}$

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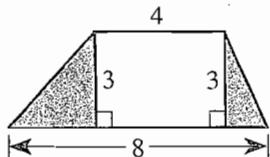
46. A restaurant has 10 booths that will seat up to 4 people each. If 20 people are seated in booths, and NO booths are empty, what is the greatest possible number of booths that could be filled with 4 people?

F. 0
G. 1
H. 2
J. 3
K. 5

DO YOUR FIGURING HERE.
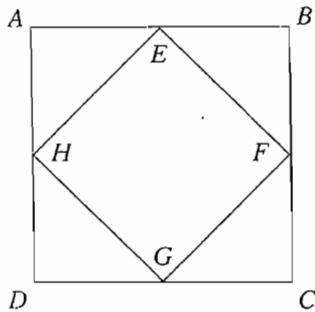
47. The trapezoid below is divided into 2 triangles and 1 rectangle. Lengths are given in inches. What is the combined area, in square inches, of the 2 shaded triangles?

A. 4
B. 6
C. 9
D. 12
E. 18

48. In the figure below, *ABCD* is a square and *E*, *F*, *G*, and *H* are the midpoints of its sides. If *AB* = 12 inches, what is the perimeter of *EFGH*, in inches?

F. 24
G. $24\sqrt{2}$
H. $36\sqrt{2}$
J. $48\sqrt{2}$
K. 72

49. Which of the following expressions, if any, are equal for all real numbers *x* ?

I. $\sqrt{(-x)^2}$

II. $|-x|$

III. $-|x|$

A. I and II only
B. I and III only
C. II and III only
D. I, II, and III
E. None of the expressions are equivalent.
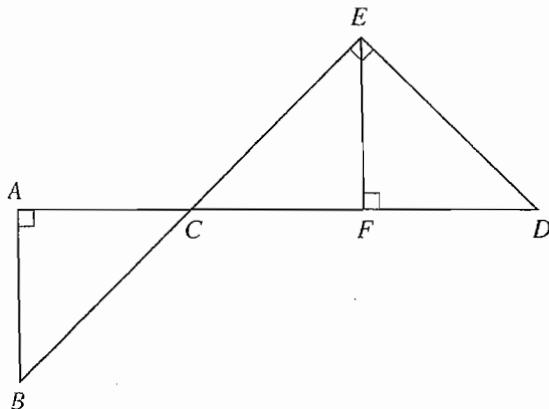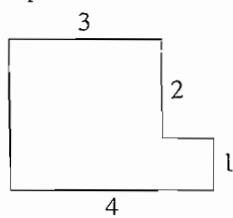
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50. In the figure below, A, C, F, and D are collinear; B, C, and E are collinear; and the angles at A, E, and F are right angles, as marked. Which of the following statements is NOT justifiable from the given information?
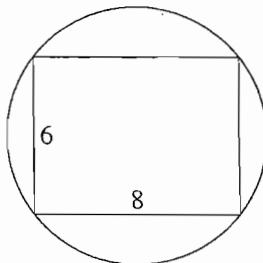
F. $\overleftrightarrow{AB}$ is parallel to $\overleftrightarrow{EF}$.

G. $\overline{DE}$ is perpendicular to $\overline{BE}$.

H. $\angle ACB$ is congruent to $\angle FCE$.

J. $\triangle BAC$ is similar to $\triangle EFC$.

K. $\overline{CE}$ is congruent to $\overline{ED}$.

51. In the figure below, all line segments are either horizontal or vertical and the dimensions given are in inches. What is the perimeter, in inches, of the figure?

A. 10
B. 12
C. 13
D. 14
E. 16

52. A 6-inch-by-8-inch rectangle is inscribed in a circle as shown below. What is the area of the circle, in square inches?

F. 5π
G. 16π
H. 25π
J. 48π
K. 96π
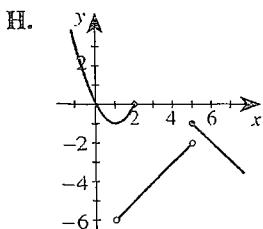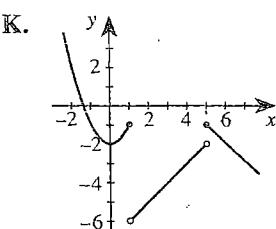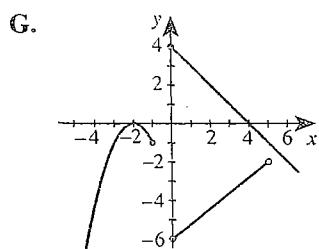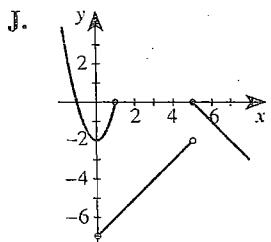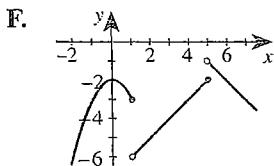
**53.** On his first day as a telemarketer, Marshall made 24 calls. His goal was to make 5 more calls on each successive day than he had made the day before. If Marshall met, but did not exceed, his goal, how many calls had he made in all after spending exactly 20 days making calls as a telemarketer?

A. 670
B. 690
C. 974
D. 1,430
E. 1,530

54. Which of the following is the graph of the function $f(x)$ defined below?

$$f(x) = \begin{cases} x^2 - 2 \text{ for } x \leq 1 \\ x - 7 \text{ for } 1 < x < 5 \\ 4 - x \text{ for } x \geq 5 \end{cases}$$

F.

J.

G.

K.

H.

Practice ACT Tests

**55.** If the value, to the nearest thousandth, of $\cos \theta$ is -0.385, which of the following could be true about θ ?

A. $0 \le \theta < \frac{\pi}{6}$

B. $\frac{\pi}{6} \le \theta < \frac{\pi}{3}$

C. $\frac{\pi}{3} \le \theta < \frac{\pi}{2}$

D. $\frac{\pi}{2} \le \theta < \frac{2\pi}{3}$

E. $\frac{2\pi}{3} \le \theta \le \pi$
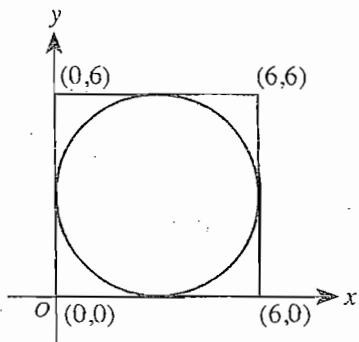
56. Which of the following quadratic equations has solutions $x = 6a$ and $x = -3b$?

F. $x^2 - 18ab = 0$

G. $x^2 - x(3b - 6a) - 18ab = 0$

H. $x^2 - x(3b + 6a) + 18ab = 0$

J. $x^2 + x(3b - 6a) - 18ab = 0$

K. $x^2 + x(3b + 6a) + 18ab = 0$

57. In the standard (x,y) coordinate plane below, the vertices of the square have coordinates $(0,0)$, $(6,0)$, $(6,6)$, and $(0,6)$. Which of the following is an equation of the circle that is inscribed in the square?

A. $(x - 3)^2 + (y - 3)^2 = 9$

B. $(x - 3)^2 + (y - 3)^2 = 3$

C. $(x + 3)^2 + (y + 3)^2 = 9$

D. $(x + 3)^2 + (y + 3)^2 = 6$

E. $(x + 3)^2 + (y + 3)^2 = 3$

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58. A simple pendulum consists of a small mass suspended from a string that is fixed at its upper end and has negligible mass. The length of time, t seconds, for a complete swing of a simple pendulum can be modeled by the equation $t = 2\pi\sqrt{\frac{L}{32}}$, where L is the length, in feet, of the string. If the time required for a complete swing of Pendulum 1 is triple the time required for a complete swing of Pendulum 2, the length of Pendulum 1's string is how many times the length of Pendulum 2's string?

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

G. 3

H. 6

J. 9

K. 27

59. If $\log_a x = s$ and $\log_a y = t$, then $\log_a (xy)^2 = ?$

A. $2(s + t)$
B. $s + t$
C. $4st$
D. $2st$
E. st

60. Jennifer's best long jump distance increased by 10% from 1990 to 1991 and by 20% from 1991 to 1992. By what percent did her best long jump distance increase from 1990 to 1992 ?

F. 32%
G. 30%
H. 20%
J. 15%
K. 2%

DO YOUR FIGURING HERE.

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 novel *Monkey Bridge* by Lan Cao (©1997 by Lan Cao). The story is set in the late 1970s in Virginia, where the narrator and her mother have moved from Vietnam after the fall of Saigon.

I discovered soon after my arrival in Virginia that everything, even the simple business of shopping the American way, unsettled my mother's nerves. From the outside, it had been an ordinary building that held no
5 promises or threats. But inside, the A & P brimmed with unexpected abundance. Metal stands overflowed with giant oranges and meticulously arranged grapefruits. Columns of canned vegetables and fruits stood among multiple shelves as people well rehearsed to the
10 demands of modern shopping meandered through florescent aisles. I remembered the sharp chilled air against my face, the way the hydraulic door made a sucking sound as it closed behind.

My mother did not appreciate the exacting orderli-
15 ness of the A & P. She could not give in to the precision of previously weighed and packaged food, the bloodlessness of beef slabs in translucent wrappers, the absence of carcasses and pigs' heads. When we were in Saigon, there were only outdoor markets. "Sky mar-
20 kets," they were called, vast, prosperous expanses in the middle of the city where barrels of live crabs and yellow carps and booths of ducks and geese would be stacked side by side with cardboard stands of expensive silk fabric. It was always noisy there—a voluptuous
25 mix of animal and human sounds. The sharp acrid smell of gutters choked by the monsoon rain. The odor of horses, partially camouflaged by the scent of guavas and bananas.

My mother knew the vendors and the shoppers by
30 name and would take me from stall to stall to expose me to her skills. They were all addicted to each other's oddities. My mother would feign indifference and they would inevitably call out to her. She would heed their call and they would immediately retreat into sudden
35 apathy. They knew my mother's slick bargaining skills, and she, in turn, knew how to navigate with grace through their extravagant prices and rehearsed huffiness. Theirs had been a mating dance, a match of wills.

Every morning, we drifted from vendor to vendor.
40 Tables full of shampoo and toothpaste were pocketed

among vegetable stands one day and jars of herbs the next. The market was randomly organized, and only the mighty and experienced like my mother could navigate its patternless paths.

45 But with a sense of neither drama nor calamity, my mother's ability to navigate and decipher simply became undone in our new life. She preferred the improvisation of haggling to the conventional certainty of discount coupons, the primordial messiness and fish-
50 mongers' stink of the open-air market to the aroma-free order of individually wrapped fillets.

Now, a mere three and a half years or so after her last call to the sky market, the dreadful truth was simply this: we were going through life in reverse, and I was
55 the one who would help my mother through the hard scrutiny of ordinary suburban life. I would have to forgo the luxury of adolescent experiments and temper tantrums, so that I could scoop my mother out of harm's way and give her sanctuary. Now, when we stepped into
60 the exterior world, I was the one who told my mother what was acceptable or unacceptable behavior.

All children of immigrant parents have experienced these moments. When it first occurs, when the parent first reveals the behavior of a child, is a defining
65 moment. Of course, all children eventually watch their parents' astonishing return to the vulnerability of childhood, but for us the process begins much earlier than expected.

"We don't have to pay the moment we decide to
70 buy the pork. We can put as much as we want in the cart and pay only once, at the checkout counter." It took a few moments' hesitation for my mother to succumb to the peculiarity of my explanation.

"I can take you in this aisle," a store clerk offered
75 as she unlocked a new register to accommodate the long line of customers. She gestured us to "come over here" with an upturned index finger, a disdainful hook we Vietnamese use to summon dogs. My mother did not understand the ambiguity of American hand
80 gestures. In Vietnam, we said "Come here" to humans differently, with our palm up and all four fingers waved in unison—the way people over here waved goodbye.

"Even the store clerks look down on us," my mother grumbled. This was a truth I was only begin-

GO ON TO THE NEXT PAGE.

35 ning to realize: it was not the enormous or momentous event, but the gradual suggestion of irrevocable and protracted change that threw us off balance and made us know in no uncertain terms that we would not be returning to the familiarity of our former lives.

1. At the time of the events of the story, the narrator is:

A. an adult remembering how hard it was on her mother when the two of them visited the United States from Saigon.

B. an adult planning to take her mother back to their native Saigon after an unsuccessful trip to the United States.

C. an adolescent imagining what it had been like when her mother moved to the United States years ago.

D. an adolescent trying to ease her mother's adjustment to life in the United States.

2. It can reasonably be inferred from the passage as a whole that the narrator views her mother's bargaining skills as ones that were developed:

F. to a degree that was exceptional even in Saigon but that have no apparent outlet in the United States.

G. to a degree that is commonplace in the competitive sky markets but that is exceptional in the United States.

H. to a lesser degree than those of most sky market shoppers in Saigon but to a degree that seems exceptional in the United States.

J. solidly and irrevocably over years of shopping in Saigon, putting her at an advantage in the challenging circumstances of her adopted home.

3. It can reasonably be inferred from the passage that when shopping at the sky market the narrator's mother viewed which of the following as something disagreeable to overcome?

A. The primordial messiness
B. The extravagant prices
C. The odors of animals
D. The other shoppers

4. The passage states that the narrator's mother finds all of the following aspects of shopping at the A & P troubling EXCEPT the:

F. orderliness of the place.
G. absence of carcasses.
H. hurried shoppers.
J. system of paying for merchandise.

5. It can reasonably be inferred that the narrator views her mother's approach to shopping at the sky market with a mixture of:

A. anxiety and huffiness.
B. surprise and embarrassment.
C. impatience and amusement.
D. respect and nostalgia.

6. The passage states that the narrator became aware of her mother's particular way of behaving in the sky markets as a result of:

F. talking to the vendors who knew her mother years ago.

G. her mother's vivid descriptions of the sky market and the things she purchased there.

H. her mother's deliberate attempts to display her shopping skills to her daughter.

J. tagging along defiantly on shopping trips against the wishes of her strong-willed mother.

7. The distinction the narrator makes between children in general and the children of immigrants in particular is that:

A. children of immigrants inevitably have to watch their parents return to a state of childlike vulnerability while other children may not.

B. the inevitable shift from being the vulnerable child to protecting the vulnerable parent takes place sooner for children of immigrants than for other children.

C. children of immigrants anticipate assuming the role of protectors of their parents, while other children are taken by surprise by the inevitable responsibility.

D. children of immigrants are misunderstood by their parents to a greater degree than are other children.

8. Which of the following statements best describes the way the seventh paragraph (lines 62–68) functions in the passage as a whole?

F. It provides the first indication that making the transition to another culture has been difficult for the narrator and her mother.

G. It sets up a contrast between the narrator's view of what it takes to adjust to a new culture and what she thought it would take before she left Saigon.

H. It shows the narrator making connections between the experiences she describes elsewhere in the passage and the experiences of the children of immigrants in general.

J. It divides the passage into two parts, one focused on the narrator, the other focused on children of immigrants in general.

9. The statement "They were all addicted to each other's oddities" (lines 31–32) functions in the passage to support the narrator's view that:

A. there was a consistent dynamic between the sky market vendors and her mother.

B. the sky markets were in some ways not as appealing as the American supermarkets.

C. sky market shoppers purchased items they didn't need just for the enjoyment of bargaining.

D. people shopped at the sky markets because the items for sale were so unusual.

10. The narrator refers to "temper tantrums" (lines 57–58) as behavior she would have to view as:

 F. one of the best ways she could use to get her mother's undivided attention.

 G. a luxury she could not afford in her new relationship with her mother.

 H. a part of her character that she inherited from her headstrong mother.

 J. an understandable reaction on her mother's part to a confusing new set of circumstances.

Passage II

SOCIAL SCIENCE: This passage is adapted from Joseph Ellis's biography *American Sphinx: The Character of Thomas Jefferson* (©1997 by Joseph J. Ellis).

The most famous section of the Declaration of Independence, which has become the most quoted statement of human rights in recorded history as well as the most eloquent justification of revolution on behalf
5 of them, went through the Continental Congress without comment and with only one very minor change. These are, in all probability, the best-known fifty-eight words in American history: "We hold these truths to be self-evident; that all men are created equal; that they
10 are endowed by their Creator with certain inherent and inalienable Rights; that among these are life, liberty and the pursuit of happiness; that to secure these rights, governments are instituted among men, deriving their just powers from the consent of the governed." This is
15 the seminal statement of the American Creed, the closest approximation to political poetry ever produced in American culture. In the nineteenth century Abraham Lincoln, who also knew how to change history with words, articulated with characteristic eloquence the
20 quasi-religious view of Thomas Jefferson as the original American oracle: "All honor to Jefferson—to the man who, in the concrete pressure of a struggle for national independence by a single people, had the coolness, forecaste, and capacity to introduce into a merely
25 revolutionary document, an abstract truth, and so to embalm it there, that today and in all coming days, it shall be a rebuke and a stumbling block to the very harbingers of reappearing tyranny and oppression."

No serious student of either Jefferson or the
30 Declaration of Independence has ever claimed that he foresaw all or even most of the ideological consequences of what he wrote. But the effort to explain what *was* in his head has spawned almost as many interpretations as the words themselves have generated
35 political movements. Jefferson himself was accused of plagiarism by enemies or jealous friends on so many occasions throughout his career that he developed a standard reply. "Neither aiming at originality of principle or sentiment, nor yet copied from any particular
40 and previous writing," he explained, he drew his ideas from "the harmonizing sentiments of the day, whether expressed in letters, printed essays or in the elementary books of public right, as Aristotle, Cicero, Locke, Sidney, etc."

45 This is an ingeniously double-edged explanation, for it simultaneously disavows any claims to originality and yet insists that he depended upon no specific texts or sources. The image it conjures up is that of a medium, sitting alone at the writing desk and making
50 himself into an instrument for the accumulated wisdom and "harmonizing sentiments" of the ages. It is only a short step from this image to Lincoln's vision of Jefferson as oracle or prophet, receiving the message from the gods and sending it on to us and then to the
55 ages. Given the character of the natural rights section of the Declaration, several generations of American interpreters have felt the irresistible impulse to bathe the scene in speckled light and cloudy mist, thereby implying that efforts to dispel the veil of mystery rep-
60 resent some vague combination of sacrilege and treason.

Any serious attempt to pierce through this veil must begin by recovering the specific conditions inside that room on Market and Seventh streets in June 1776.
65 Even if we take Jefferson at his word, that he did not copy sections of the Declaration from any particular books, he almost surely had with him copies of his own previous writings, to include *Summary View, Causes and Necessities* and his three drafts of the Virginia con-
70 stitution. This is not to accuse him of plagiarism, unless one wishes to argue that an author can plagiarize himself. It is to say that virtually all the ideas found in the Declaration and much of the specific language had already found expression in those earlier writings.

75 Recall the context. The Congress is being overwhelmed with military reports of imminent American defeat in New York and Canada. The full Congress is in session six days a week, and committees are meeting throughout the evenings. The obvious practical course
80 for Jefferson to take was to rework his previous drafts on the same general theme. While it seems almost sacrilegious to suggest that the creative process that produced the Declaration was a cut-and-paste job, it strains credulity and common sense to the breaking point to
85 believe that Jefferson did not have these items at his elbow and draw liberally from them when drafting the Declaration.

11. It can reasonably be inferred from the passage that the author believes that Jefferson was:

 A. a mysterious character whose attempts at originality were very patriotic.

 B. a brilliant yet practical man, neither plagiarizer nor prophet, writing under pressure.

 C. a politician who deserves more attention for his writing than he gets.

 D. an average man who has been represented as a quasi-religious leader by later generations.

GO ON TO THE NEXT PAGE.

12. Details in the passage suggest that the author's personal position on the question of Jefferson's alleged plagiarism is that the:

F. idea of Jefferson copying from his own writings is only common sense.
G. notion of Jefferson copying from past writings is in fact sacrilegious.
H. concept of the Declaration as a cut-and-paste job strains credulity.
J. claim that the Declaration is related in some way to *Causes and Necessities* strains common sense.

13. It can reasonably be inferred that one of the functions of the first sentence (lines 1–6) is to:

A. point out that Jefferson's words have been used to justify revolutions as well as to promote human rights.
B. establish that the author believes that the Continental Congress should have commented on and reworked the Declaration.
C. emphasize the author's surprise at the eventual fame achieved by this section of the Declaration.
D. suggest that equally eloquent works were probably produced before the beginning of recorded history.

14. Which of the following statements best summarizes Lincoln's thoughts about what Jefferson achieved when he wrote the Declaration (lines 21–28)?

F. Even during the fight for independence, Jefferson's cool intelligence allowed him to write a statement that has been used against revolutionaries ever since.
G. Even during a revolution, Jefferson was calm enough to change a merely political document into a statement that predicted the rise of future tyrants.
H. Even under pressure of war, Jefferson was able to write a document that not only announced a revolution but also spoke against oppression for all time.
J. Even under pressure of war, Jefferson was able to write a document that both proclaimed abstract truths and dared tyrants to continually reappear.

15. The main function of the second paragraph (lines 29–44) in relation to the passage as a whole is to:

A. redirect the passage toward a discussion of various interpretations of the Declaration.
B. establish the passage's claim that Jefferson receives a great deal of serious scholarly attention for many of his writings.
C. shift the passage's focus toward an inquiry into the sources of the ideas expressed in the Declaration.
D. emphasize the passage's point that interpreters disagree about why the Declaration was written.

16. In saying "Even if we take Jefferson at his word, that he did not copy sections of the Declaration from any particular books" (lines 65–67), the author implies that he thinks Jefferson:

F. may not have been totally honest when he said that no parts of the Declaration were copied from any previous writing.
G. may have in fact copied some of Abraham Lincoln's writings when drafting the Declaration.
H. should not be believed because his character has been hidden behind a veil of mystery for so long.
J. cannot be accused of plagiarizing parts of the Declaration because it was written so long ago.

17. Use of the phrase *characteristic eloquence* (line 19) to describe Abraham Lincoln's words indicates the author's:

A. use of irony to describe words written by Lincoln that the author finds difficult to believe.
B. belief that Lincoln was usually a persuasive, expressive speaker and writer.
C. notion that Lincoln was a bit of a character because of his controversial opinions.
D. feelings of regret that Lincoln's words are so often difficult for modern readers to understand.

18. According to lines 29–32, students of Jefferson and of the Declaration think that Jefferson:

F. carefully contrived to write ambiguously about freedom.
G. anticipated most of the ideological outcomes of what he wrote.
H. never foresaw most of the ideological outcomes of what he wrote.
J. wrote the Declaration from memory without consulting other works.

19. The author thinks Jefferson's reply to accusations of plagiarism was "ingeniously double-edged" (line 45) because Jefferson claimed that:

A. he wrote alone, while also implying that he copied from his own previous writings.
B. his work was prophetic, yet he made no claim to originality.
C. he was a prophet, and he later influenced Lincoln to agree with that claim.
D. his writing was not new, yet he maintained he had not copied from any particular text.

20. The author uses the description of what was happening in the country when Jefferson was writing the Declaration (lines 75–79) to suggest that Jefferson:

F. felt great urgency to get the Declaration written, and didn't have much time to do so.
G. was depressed by news of American defeats and so lacked energy to draft a new document.
H. knew the Declaration could solve the problems of the nation and finished it in a hurry.
J. worried that the war was moving closer to home and felt he should take his time writing the Declaration.

Practice ACT Tests

Passage III

On September 8, 1966, when NBC premiered its new futuristic series, *Star Trek*, few were watching. Conceived by television writer Gene Roddenberry as part American Western, part science fiction, and part
5 contemporary morality play, *Star Trek* languished for two and a half years before being canceled as a ratings flop in January 1969.

Two years later, *Star Trek* somehow had captured the imagination and viewer loyalty of millions of
10 Americans who "discovered" the show anew in syndicated reruns. *Star Trek*'s meteoric rise to popularity was unprecedented for a television program. By January 1972, the show was airing in over one hundred local markets in America and seventy more around the
15 world.

Perhaps more than other television series, *Star Trek* benefited greatly from being the right show at the right time. In middle-class America, social and political change in the late 1960s made it increasingly
20 difficult for people to unite in common purpose. Civil rights struggles, the Vietnam War, and the rise of a culturally empowered youth movement, among other things, divided many Americans by race, gender, age, and politics.

25 Although television news programs helped focus the country on the rifts that had begun to percolate on campuses, in city streets, and around dining room tables, as a rule entertainment programming avoided conflict and controversy. Escapist comedy about sub-
30 urban witches, genies, and rural townspeople was standard fare. Network drama emphasized law, order, and conformity, whether on the police beat, in a courtroom, or out on the great Western frontier.

Star Trek was different. Created in the optimistic
35 afterglow of John F. Kennedy's inauguration of the space race, *Star Trek*'s exploration of the "final frontier" was a theme that resonated with millions of idealistic and awestruck Americans who looked at the Apollo moon landings as a crowning, positive achieve-
40 ment for humankind. Still, as Gene Roddenberry often claimed, *Star Trek* was less about the future than the present.

Indeed, it was precisely because of its futuristic storyline that *Star Trek* was able to address many of the
45 contemporary social problems that other programs shunned. *Star Trek*'s visionary episodes on race relations, nuclear deterrence, multiculturalism, and ecology (among others) were not threatening to those who saw it as fantastic science fiction. For those who saw the
50 program as a window into current controversy, *Star Trek* offered insight and added perspective to continued American cultural and political change in the 1970s. Either way, the show's wide appeal in syndication was such that, by 1977, *Star Trek* had become the most-
55 watched off-network series drama of all time.

In nearly thirty years, Gene Roddenberry's fantasy space concept has spawned four prime-time series, continued syndication, a cartoon, eight major motion pictures, countless toys, games, and computer software.
60 Nearly overlooked, however, is the unparalleled impact *Star Trek* has had on an industry that has only recently become television friendly: publishing. Since the early 1970s, when the first novels hit bookshelves, the world of *Star Trek* has exploded in print like no other phe-
65 nomenon in American popular culture. *Star Trek* fan volumes, cast memoirs, and novels continue to appear—and in record numbers.

Of all the "classic" and contemporary shows available to a critic, none illustrates the scope of America's
70 cultural evolution as eloquently as the saga of *Star Trek* and its next-generation spin-offs. In a culture that has undergone dramatic and far-reaching change in the last thirty years, *Star Trek* sweetens the often bitter alienation of contemporary change with the type of famil-
75 iarity and constancy that only a show with a thirty-year history can offer.

Star Trek offers viewers the paradox of a program that combines provocative insight into changing cultural values with the reassuring comfort that the
80 "known" universe of Starfleet, Klingons, and phasers can nonetheless survive intact, and even grow.

Because of its active fandom, *Star Trek* has become a television phenomenon like no other in American culture. And just as the original *Star Trek* has
85 found new expression in series such as *The Next Generation, Deep Space Nine,* and *Voyager,* I suspect fans will find new ways to indulge or express their private affection for *Star Trek* by reading—and writing—books in greater numbers. As America goes boldly into
90 the next millennium, so will *Star Trek* in print, on television, and in formats yet to come.

21. The main purpose of the passage can best be described as an effort to:

A. explain how and why *Star Trek* has endured.
B. illustrate what American society was like at the time the original *Star Trek* series was created.
C. discuss how *Star Trek*'s storyline has changed over its thirty-year history.
D. describe the different forms that *Star Trek* has taken, such as television series, films, and novels.

GO ON TO THE NEXT PAGE.

22. The author's attitude toward the subject of the passage can best be characterized as:

F. amused tolerance.
G. detached interest.
H. warm appreciation.
J. mild skepticism.

23. It can be reasonably inferred that the author believes *Star Trek* first became a success in:

A. 1966.
B. 1969.
C. 1971.
D. 1977.

24. According to the fourth paragraph (lines 25–33), compared to television news programs of the time period, entertainment programming is described as:

F. more willing to examine the rifts developing in American society.
G. more willing to portray violent conflict and controversy.
H. less willing to promote the principles of conformity and order.
J. less willing to present a realistic picture of contemporary life.

25. As described in the passage, the effect *Star Trek* has had on the publishing industry can best be summarized by which of the following statements?

A. *Star Trek*'s impact can be safely overlooked because the publishing industry remains unfriendly to television.
B. *Star Trek* made an impact with its first novels, but that impact has lessened over time.
C. *Star Trek*'s tremendous impact has been primarily limited to novels.
D. *Star Trek* has had a deep impact with its extensive and popular range of books.

26. When the author states that *Star Trek* was "the right show at the right time" (lines 17–18), he most likely means that the series benefited from:

F. the unsettled social and political conditions.
G. the general popularity of syndicated reruns.
H. an increasing appetite for escapist entertainment.
J. the increasingly empowered middle class.

27. The passage indicates that *Star Trek* creator Gene Roddenberry's primary purpose in creating the series was to:

A. show how different life would be in the future.
B. promote the space program and the exploration of space.
C. offer a lighthearted alternative to serious entertainment.
D. comment on problems facing people in the present.

28. According to the author, the primary benefit of the original *Star Trek*'s futuristic storyline was that it allowed the series' writers to:

F. offer perspectives and insights that were unthreatening.
G. invent fantastic and entertaining science fiction worlds.
H. easily develop related spin-offs, such as films and new series.
J. avoid controversial topics, such as nuclear deterrence and multiculturalism.

29. The author calls some of the original *Star Trek*'s episodes "visionary" in line 46 most likely because they:

A. presented issues that weren't problems at the time but that now are.
B. dealt with complex themes with imagination and foresight.
C. offered dreamy and unrealistic solutions to difficult problems.
D. appealed to a wide audience through syndication.

30. The "paradox" mentioned in line 77 most directly refers to what the author sees as the conflicting ideas of:

F. cultural values and entertainment.
G. familiarity and change.
H. comfort and the *Star Trek* universe.
J. survival and being provocative.

GO ON TO THE NEXT PAGE.

Passage IV

NATURAL SCIENCE: This passage is adapted from *An Anthropologist on Mars* by Oliver Sacks (©1995 by Oliver Sacks). Johann Wolfgang von Goethe was an eighteenth-century German poet and philosopher; Hermann von Helmholtz was a nineteenth-century scientist and philosopher.

Goethe's color theory, his *Farbenlehre* (which he regarded as the equal of his entire poetic opus), was, by and large, dismissed by all his contemporaries and has remained in a sort of limbo ever since, seen as the
5 whimsy, the pseudoscience, of a very great poet. But science itself was not entirely insensitive to the "anomalies" that Goethe considered central, and Helmholtz, indeed, gave admiring lectures on Goethe and his science, on many occasions—the last in 1892. Helmholtz
10 was very conscious of "color constancy"—the way in which the colors of objects are preserved, so that we can categorize them and always know what we are looking at, despite great fluctuations in the wavelength of the light illuminating them. The actual wavelengths
15 reflected by an apple, for instance, will vary considerably depending on the illumination, but we consistently see it as red, nonetheless. This could not be, clearly, a mere translation of wavelength into color. There had to be some way, Helmholtz thought, of "discounting the
20 illuminant"—and this he saw as an "unconscious inference" or "an act of judgement" (though he did not venture to suggest where such judgement might occur). Color constancy, for him, was a special example of the way in which we achieve perceptual constancy gener-
25 ally, make a stable perceptual world from a chaotic sensory flux—a world that would not be possible if our perceptions were merely passive reflections of the unpredictable and inconstant input that bathes our receptors.

30 Helmholtz's great contemporary, James Clerk Maxwell, had also been fascinated by the mystery of color vision from his student days. He formalized the notions of primary colors and color mixing by the invention of a color top (the colors of which fused,
35 when it was spun, to yield a sensation of grey), and a graphic representation with three axes, a color triangle, which showed how any color could be created by different mixtures of the three primary colors. These prepared the way for his most spectacular demonstration,
40 the demonstration in 1861 that color photography was possible, despite the fact that photographic emulsions were themselves black and white. He did this by photographing a colored bow three times, through red, green, and violet filters. Having obtained three "color-
45 separation" images, as he called them, he now brought these together by superimposing them upon a screen, projecting each image through its corresponding filter (the image taken through the red filter was projected with red light, and so on). Suddenly, the bow burst
50 forth in full color. Clerk Maxwell wondered if this was how colors were perceived in the brain, by the addition of color-separation images or their neural correlates [what functions in the brain as a color-separation image], as in his magic-lantern demonstrations.

55 Clerk Maxwell himself was acutely aware of the drawback of this additive process: color photography had no way of "discounting the illuminant," and its colors changed helplessly with changing wavelengths of light.

60 In 1957, ninety-odd years after Clerk Maxwell's famous demonstration, Edwin Land—not merely the inventor of the instant Land camera and Polaroid, but an experimenter and theorizer of genius—provided a photographic demonstration of color perception even
65 more startling. Unlike Clerk Maxwell, he made only two black-and-white images (using a split-beam camera so they could be taken at the same time from the same viewpoint, through the same lens) and superimposed these on a screen with a double-lens projector. He used
70 two filters to make the images: one passing longer wavelengths (a red filter), the other passing shorter wavelengths (a green filter). The first image was then projected through a red filter, the second with ordinary white light, unfiltered. One might expect that this
75 would produce just an overall pale-pink image, but something "impossible" happened instead. The photograph of a young woman appeared instantly in full color—"blonde hair, pale blue eyes, red coat, bluegreen collar, and strikingly natural flesh tones," as Land later
80 described it. Where did these colors come from, how were they made? They did not seem to be "in" the photographs or the illuminants themselves. These demonstrations, overwhelming in their simplicity and impact, were color "illusions" in Goethe's sense, but illusions
85 that demonstrated a neurological truth—that colors are not "out there" in the world, nor (as classical theory held) an automatic correlate of wavelength, but, rather, are *constructed by the brain.*

31. According to the passage, regarding Goethe's color theory, Helmholtz expressed which of the following attitudes?

   A. Disbelief
   B. Respect
   C. Amusement
   D. Skepticism

32. It can be inferred that in Clerk Maxwell's 1861 demonstration a color image would not have been produced from black-and-white film emulsions without the use of color:

   F. filters.
   G. triangles.
   H. tops.
   J. slides.

GO ON TO THE NEXT PAGE.

33. As described in the passage, Goethe's contemporaries for the most part regarded him as a:

    A. mediocre poet whose most important work was as a scientist.
    B. theorist whose attempts at poetry were commendable but insignificant.
    C. leading poet whose contributions to science were less noteworthy.
    D. leading theorist who overturned previously standard approaches to scientific inquiry.

34. The tendency to perceive objects as having a given color, such as the perception of an apple as "red" even if it is "red" only in certain lighting, is an example of what Helmholtz refers to as:

    F. split-beam filtering.
    G. sensory flux.
    H. color separation.
    J. color constancy.

35. According to lines 14–17, the wavelengths reflected by the apple vary considerably as a result of:

    A. the differences between the viewer's right and left eye.
    B. the distance between the apple and the eyes.
    C. a viewer's ability to perceive red in different light.
    D. variations in the source of light reaching the apple.

36. The term *illuminant,* as it is used in line 20 and elsewhere in the passage, refers to which of the following?

    F. Camera flash equipment
    G. A color theorist
    H. Light that makes an object visible
    J. Light before it passes through a filter

37. What about the nature of color perception is described as a preoccupation of Helmholtz's? The way in which:

    A. varying wavelengths of light stabilize the appearance of an object.
    B. humans arrive at a notion of what the color of an object is.
    C. humans undergo changes in color awareness as they age.
    D. one color becomes another when images are superimposed.

38. According to the passage, the relationship between primary colors and other colors can be best described by which of the following statements?

    F. All colors are either primary colors or can be created by a combination of primary colors.
    G. The human eye perceives primary colors first, then other colors.
    H. Primary colors were the first colors captured on film by the camera; other colors were captured by later, more sophisticated, equipment.
    J. Primary colors emerge as a result of blending nonprimary colors along the axes of Clerk Maxwell's triangle.

39. Clerk Maxwell demonstrated that color photography was possible even though at the time of his demonstrations:

    A. illuminants were thought to be stable rather than variable.
    B. photographic emulsions were available only in black-and-white.
    C. the general public rejected the new technology as stunts with no practical application.
    D. professional photographers were reluctant to abandon the established black-and-white aesthetic.

40. The two images that became the single image in Land's photograph of a woman were obtained by using:

    F. a screen lit from the front and back.
    G. flickering light sources.
    H. one lens in two cameras.
    J. one camera with one divided lens.

END OF TEST 3

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

DO NOT RETURN TO A PREVIOUS TEST.

Practice ACT Tests

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

A team of researchers constructed a greenhouse, consisting of 3 artificially lighted and heated sections, to be used to grow food during a long space voyage. The researchers found the weekly average light intensity, in arbitrary units, and the weekly average air temperature, in degrees Celsius (°C), in each section. The results for the first 6 weeks of their measurements are given in Table 1 (weekly average light intensity) and Table 2 (weekly average air temperature).

Table 1			
	Weekly average light intensity (arbitrary units)		
Week	Section 1	Section 2	Section 3
1	289.3	84.4	120.7
2	305.5	79.2	80.8
3	313.4	76.2	77.0
4	314.9	73.6	69.4
5	304.5	68.8	74.6
6	311.1	68.5	68.4

Table 2			
	Weekly average air temperature (°C)		
Week	Section 1	Section 2	Section 3
1	19.68	19.10	18.66
2	20.12	19.22	18.47
3	20.79	19.21	18.61
4	20.98	19.49	18.95
5	21.04	19.91	19.09
6	21.13	19.60	18.59

1. The highest weekly average air temperature recorded during the first 6 weeks of the study was:
   - A. 18.47°C.
   - B. 21.13°C.
   - C. 120.7°C.
   - D. 314.9°C.

2. According to Table 2, weekly average air temperatures were recorded to the nearest:
   - F. 0.01°C.
   - G. 0.1°C.
   - H. 1.0°C.
   - J. 10°C.
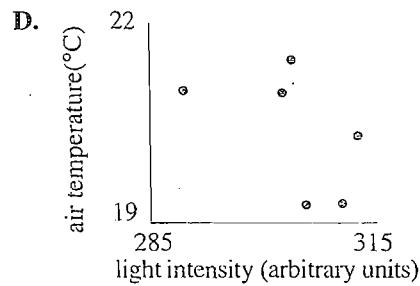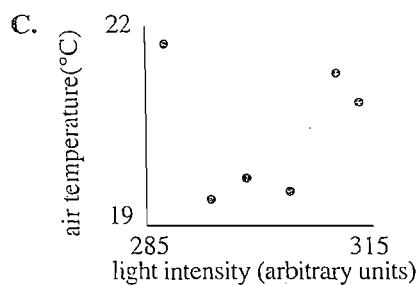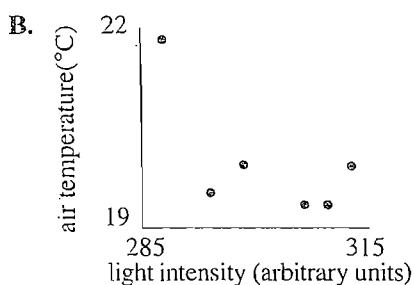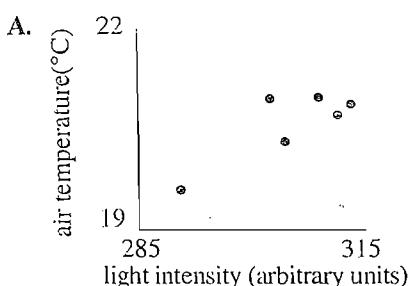
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3. A plot of weekly average air temperature versus weekly average light intensity for Section 1 is best represented by which of the following graphs?

A.

B.

C.

D.

4. Which of the following statements best describes the changes in the weekly average air temperature in Section 1 during Weeks 1–6 ?

F. The weekly average air temperature increased between Weeks 1 and 3 and decreased between Weeks 4 and 6.

G. The weekly average air temperature decreased between Weeks 1 and 3 and increased between Weeks 4 and 6.

H. The weekly average air temperature always increased.

J. The weekly average air temperature always decreased.

5. Suppose the *efficiency of illumination* is defined as the intensity of light absorbed by the plants divided by the intensity of light provided to the plants. Based on the data, would one be justified in concluding that the efficiency of illumination was higher in Section 1 than in the other sections?

A. Yes, because the illumination provided to the plants was highest in Section 1.

B. Yes, because the amount of light not absorbed by the plants was highest in Section 1.

C. No, because the amount of light absorbed by the plants was lowest in Section 1.

D. No, because the information provided is insufficient to determine efficiency of illumination.

Passage II

Carbon monoxide gas (CO) is toxic in air at concentrations above 0.1% by volume. Cars are the major source of atmospheric CO in urban areas. Higher CO levels are observed during colder weather. A group of students proposed that cars emit more CO at colder air temperatures than at warmer air temperatures during the first 15 minutes after they are started. The students did the following experiments to investigate this hypothesis.

Experiment 1

A hose was connected to the tailpipe of a car. The engine was started and the exhaust was collected in a plastic bag. A 1 mL sample of the exhaust was taken from the bag with a syringe and injected into a *gas chromatograph*, an instrument that separates a mixture of gases into its individual components. Comparisons of the exhaust with mixtures of known CO concentrations were made to determine the percent by volume of CO in the exhaust. Exhaust was collected at 2-minute intervals. Samples of exhaust from each of 4 cars were tested at an external temperature of −9°C. The results are shown in Table 1.

Table 1				
Time after starting (min)	Percent of CO in the exhaust at −9°C:			
	1978 Model X	1978 Model Y	1996 Model X	1996 Model Y
1	3.5	3.2	1.2	0.3
3	4.0	3.7	1.0	1.2
5	4.5	7.5	1.5	2.5
7	3.6	10.0	1.0	3.0
9	3.2	9.1	0.5	2.6
11	3.1	8.0	0.5	2.0
13	3.0	7.0	0.5	2.0
15	2.9	7.0	0.4	1.8

Experiment 2

The same 4 cars were tested at a temperature of 20°C using the procedure from Experiment 1. The results are shown in Table 2.

Table 2				
Time after starting (min)	Percent of CO in the exhaust at 20°C:			
	1978 Model X	1978 Model Y	1996 Model X	1996 Model Y
1	2.0	0.8	0.3	0.2
3	2.8	2.0	0.5	1.0
5	3.4	6.0	0.5	1.5
7	1.5	7.0	0.3	0.8
9	1.3	7.0	0.3	0.5
11	1.0	6.5	0.1	0.3
13	1.0	5.0	0.1	0.3
15	0.9	4.8	0.1	0.2

6. Do the results from Experiment 1 support the hypothesis that, at a given temperature and time, the exhaust of newer cars contains lower percents of CO than the exhaust of older cars?

F. Yes; the highest percent of CO was in the exhaust of the 1996 Model Y.
G. Yes; both 1996 models had percents of CO that were lower than those of either 1978 model.
H. No; the highest percent of CO was in the exhaust of the 1978 Model Y.
J. No; both 1978 models had percents of CO that were lower than those of either 1996 model.

7. A student, when using the gas chromatograph, was concerned that CO_2 in the exhaust sample may be interfering in the detection of CO. Which of the following procedures would best help the student investigate this problem?

A. Filling the bag with CO_2 before collecting the exhaust
B. Collecting exhaust from additional cars
C. Injecting a sample of air into the gas chromatograph
D. Testing a sample with known amounts of CO and CO_2

8. Based on the results of the experiments and the information in the table below, cars in which of the following cities would most likely contribute the greatest amount of CO to the atmosphere in January? (Assume that the types, numbers, and ages of cars used in each city are approximately equal.)

City	Average temperature (°F) for January
Minneapolis	11.2
Pittsburgh	26.7
Seattle	39.1
San Diego	56.8

F. Minneapolis
G. Pittsburgh
H. Seattle
J. San Diego

9. In Experiment 1, which of the following factors varied?

A. The method of sample collection
B. The volume of exhaust that was tested
C. The year in which the cars were made
D. The temperature at which the engine was started

GO ON TO THE NEXT PAGE.

10. Many states require annual testing of cars to determine the levels of their CO emissions. Based on the experiments, in order to determine the maximum percent of CO found in a car's exhaust, during which of the following times after starting a car would it be best to sample the exhaust?

    F. 1–3 min
    G. 5–7 min
    H. 9–11 min
    J. 13 min or longer

11. How would the results of the experiments be affected, if at all, if the syringe contents were contaminated with CO-free air? (The composition of air is 78% N_2, 21% O_2, 0.9% Ar, and 0.1% other gases.) The measured percents of CO in the exhaust would be:

    A. higher than the actual percents at both –9°C and 20°C.
    B. lower than the actual percents at –9°C, but higher than the actual percents at 20°C.
    C. lower than the actual percents at both –9°C and 20°C.
    D. the same as the actual percents at both –9°C and 20°C.

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Passage III

A student performed 3 activities with a microscope that had 4 objective lenses.

Activity 1

The student viewed 4 slides (A, B, C, and D) through each objective lens. Each slide had 2 thin lines painted on it. For each objective lens, the student determined whether she could see the lines as separate or whether they blurred into 1 image. The results appear in Table 1.

Table 1				
	Objective Lens:			
Slide	1	2	3	4
A	|	|	|	|
B	|	|	|	||
C	|	|	||	||
D	|	||	||	||

Note: \|\| indicates lines appeared separate; \| indicates lines blurred together.

Activity 2

The student was given a prepared slide with a line on it that was 0.1 mm in length. This length was defined as the *object size*. Next, she viewed the slide with each objective lens, estimating how long the line appeared. This estimated length was called the *image size*. Finally, she calculated the magnification (M) associated with each objective lens from the following formula:

$$M = \text{image size} \div \text{object size}.$$

The data appear in Table 2.

Table 2		
Objective Lens	Image size (mm)	M
1	4	40
2	10	100
3	20	200
4	40	400

Activity 3

The *numerical aperture* (NA) of each objective lens was printed on the microscope. NA determines how much detail can be seen and is related to *resolution* (R). R is defined as the smallest distance separating 2 objects such that the objects appear separate. Thus an objective lens with a small R shows a sample more clearly than does an objective lens with a large R. R is calculated from the following formula:

$$R = \lambda \div 2(NA)$$

where λ is the wavelength of the light, in nanometers (nm), used to view the objects.

The student calculated R for each objective lens, assuming a λ of 550 nm. The data appear in Table 3.

Table 3		
Objective Lens	NA	R (nm)
1	0.10	2,750
2	0.25	1,100
3	0.40	688
4	0.65	423

12. If the student had viewed the slide used in Activity 2 through a fifth objective lens and the image size with this objective lens was 30 mm, the M associated with this objective lens would have been:

F.   30.
G.   100.
H.   300.
J.   1,000.

13. Based on the results of Activity 2, the combination of which of the following lines and objective lenses would result in the greatest image size?

A.   A 0.7 mm line viewed through Objective Lens 1
B.   A 0.6 mm line viewed through Objective Lens 2
C.   A 0.5 mm line viewed through Objective Lens 3
D.   A 0.4 mm line viewed through Objective Lens 4

GO ON TO THE NEXT PAGE.

14. When viewing Slide C in Activity 1, the student was able to discern 2 distinct lines with how many of the objective lenses?

    F. 1
    G. 2
    H. 3
    J. 4

15. Which of the following equations correctly calculates R (in nm) for Objective Lens 2, using light with a wavelength of 425 nm ?

    A. $R = 425 \div 2(0.10)$
    B. $R = 425 \div 2(0.25)$
    C. $R = 0.10 \div 2(425)$
    D. $R = 0.25 \div 2(425)$

16. Another student calculated the R of a fifth objective lens as described in Activity 3. He determined that for this fifth objective lens, R = 1,830 nm. Accordingly, the NA of this lens was most likely closest to which of the following values?

    F. 0.15
    G. 0.25
    H. 0.35
    J. 0.45

17. Activity 1 and Activity 2 differed in that in Activity 1:

    A. 4 different slides were used.
    B. 4 different objective lenses were used.
    C. the wavelength of the light was varied.
    D. the object sizes were greater than the image sizes.
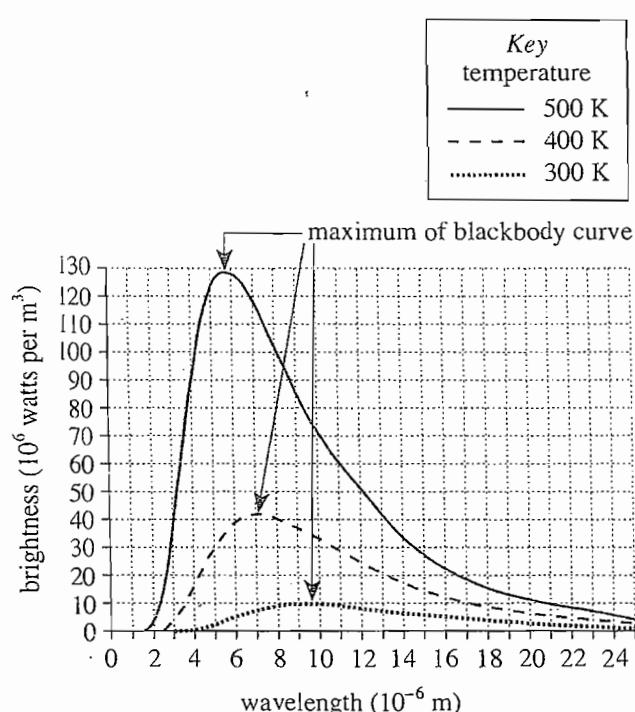
Passage IV

A *blackbody* is an object that absorbs all of the radiation that strikes it. The blackbody also emits radiation at all wavelengths; the emitted radiation is called *blackbody radiation*. The brightness of blackbody radiation at a given wavelength depends on the temperature of the blackbody. A graph of brightness versus wavelength for a blackbody is called a *blackbody curve*. Blackbody curves for the same blackbody at 3 different temperatures are shown in the figure below.

(Note: 1 watt = 1 joule per second; joule is a unit of energy. At wavelengths above 25×10^{-6} m, the brightness of the blackbody at each temperature continues to decrease.)
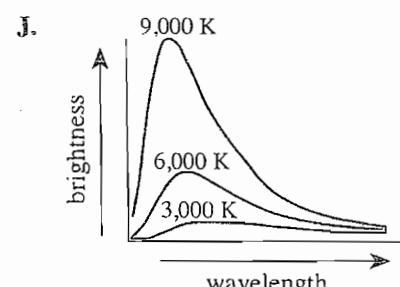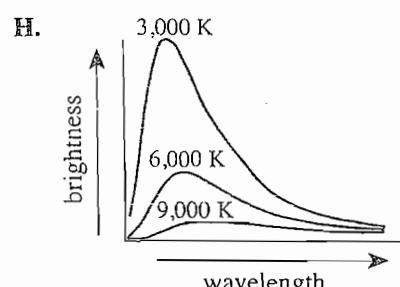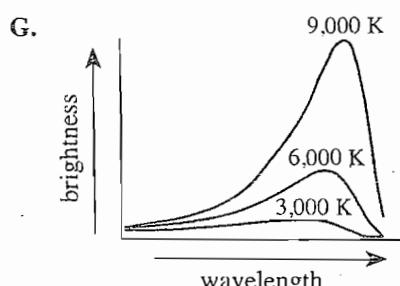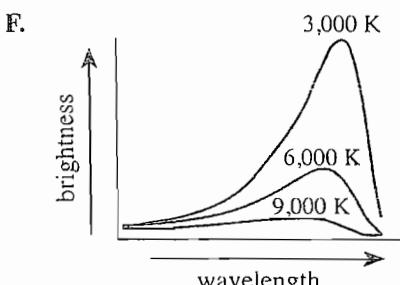
18. The area under each blackbody curve gives the total amount of energy emitted every second by 1 m^2 of the blackbody. Which of the following correctly ranks the 3 curves, from *greatest* to *least*, according to the total amount of energy emitted every second by 1 m^2 of the blackbody at the wavelengths shown?

F. 300 K, 400 K, 500 K
G. 300 K, 500 K, 400 K
H. 400 K, 500 K, 300 K
J. 500 K, 400 K, 300 K

19. Based on the figure, at a temperature of 300 K and a wavelength of 30×10^{-6} m, the brightness of a blackbody will most likely be:

A. less than 5×10^6 watts per m^3.
B. between 5×10^6 watts per m^3 and 40×10^6 watts per m^3.
C. between 41×10^6 watts per m^3 and 130×10^6 watts per m^3.
D. greater than 130×10^6 watts per m^3.

20. The radiation emitted by a star can be represented by the radiation from a blackbody having the same temperature as the star's visible surface. Based on the figure, which of the following sets of blackbody curves best represents stars of equal diameter with surface temperatures of 3,000 K, 6,000 K, and 9,000 K ?

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21. Based on the figure, the maximum of the blackbody curve will equal 75×10^6 watts per m^3 when the temperature of the blackbody is closest to:

   A. 250 K.
   B. 350 K.
   C. 450 K.
   D. 550 K.

22. The frequency of radiation increases as the radiation's wavelength decreases. Based on this information, over all wavelengths in the figure, as the frequency of the radiation from a blackbody increases, the brightness of the radiation:

   F. increases only.
   G. decreases only.
   H. increases, then decreases.
   J. decreases, then increases.

Passage V

Some of the liquid in a closed container evaporates, forming a vapor that condenses, reforming the liquid. The pressure of the vapor at *equilibrium* (when the rates of evaporation and condensation are equal) is the liquid's *vapor pressure*. A liquid in an open container boils when its vapor pressure equals the *external pressure*. The following experiments were performed to study vapor pressures.

Experiment 1

The apparatus shown in Figure 1 was assembled except for the tubing. The flask was placed in a 20°C H_2O bath. After 5 minutes the manometer was connected, and 2 mL of hexane was added to the flask from the dropper. Some of the hexane evaporated. The vapor pressure was determined by measuring the height of the mercury (Hg) after the Hg level had stabilized. Additional trials were performed at different temperatures and with other liquids in the flask. The results are shown in Table 1.
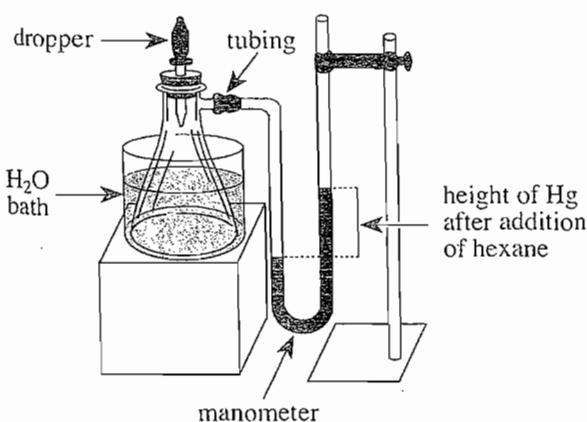

Figure 1

Figure 1 adapted from Henry Dorin, Peter E. Demmin, and Dorothy L. Gabel, *Chemistry: The Study of Matter.* ©1989 by Prentice-Hall, Inc.

Table 1			
	Vapor pressure (mm Hg) at:		
Liquid	0°C	20°C	40°C
2-Butanone	35	75	200
Ethyl acetate	20	70	180
Hexane	40	110	250
Methanol	25	90	245
2-Propanol	9	35	100
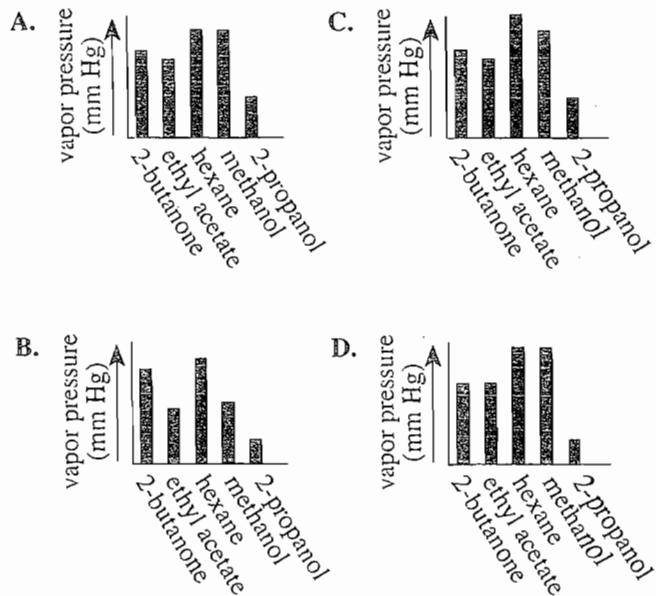
Experiment 2

A test tube containing a thermometer and hexane was heated in an oil bath until the hexane boiled gently. The temperature was recorded. The external pressure was 760 mm Hg. This procedure was repeated in a chamber at pressures of 400 mm Hg and 100 mm Hg. The boiling points of other liquids were also determined. The results are shown in Table 2.
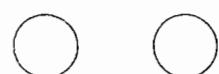
Table 2			
	Boiling point (°C) at external pressure of:		
Liquid	760 mm Hg	400 mm Hg	100 mm Hg
2-Butanone	79.6	60.0	25.0
Ethyl acetate	77.1	59.3	27.0
Hexane	68.7	49.6	15.8
Methanol	64.7	49.9	21.2
2-Propanol	82.5	67.8	39.5

23. Which of the following bar graphs best represents the vapor pressures of the liquids from Experiment 1 at 20°C ?


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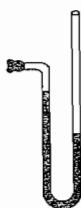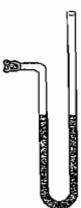
24. Which of the following figures best depicts the change in height of the Hg in the manometer in Experiment 1 ?
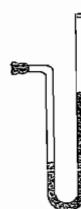
| Hg height before liquid was added | Hg height after Hg level stabilized |
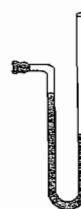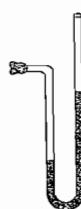
F.
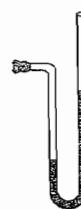
G.

H.

J.

25. A student hypothesized that, at a given external pressure, the higher a liquid's molecular weight, the higher the boiling point of that liquid. Do the results of Experiment 2 and all of the information in the table below support his hypothesis?

Liquid	Molecular weight (grams per mole)
2-Butanone	72
Ethyl acetate	88
Hexane	86
Methanol	32
2-Propanol	60
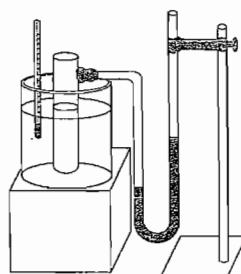
A. Yes; methanol has the lowest molecular weight and the lowest boiling point.
B. Yes; ethyl acetate has a higher molecular weight and boiling point than hexane.
C. No; the higher a liquid's molecular weight, the lower the liquid's boiling point.
D. No; there is no clear relationship in these data between boiling point and molecular weight.

26. According to the results of Experiment 2, as the external pressure increases, the boiling points of the liquids:
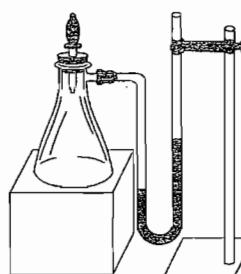
F. decrease only.
G. increase only.
H. decrease, then increase.
J. increase, then decrease.

27. Which of the following figures best illustrates the apparatus used inside the pressure chamber in Experiment 2 ?
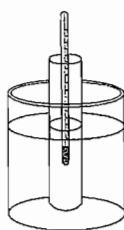
A.

C.

B.

D.

28. Which of the following statements best explains why in Experiment 1 the experimenter waited 5 minutes before connecting the manometer to the flask with the tubing? The experimenter waited to allow:

F. all of the H_2O vapor to be removed from the flask.
G. time for the liquid in the flask to evaporate.
H. time for the height of the Hg in the manometer to stabilize.
J. the air in the flask to adjust to the temperature of the H_2O bath.

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Passage VI

A *polypeptide* molecule is a chain of amino acids. A *protein* consists of 1 or more polypeptides. A protein's shape is described by 3 or 4 levels of structure.

1. The *primary structure* of a protein is the sequence of amino acids in each polypeptide.

2. The *secondary structure* of a protein is the local folding patterns within short segments of each polypeptide due to *hydrogen bonding* (weak chemical bonds).

3. The *tertiary structure* is the folding patterns that result from interactions between amino acid *side chains* (parts of an amino acid) in each polypeptide. These folding patterns generally occur across greater distances than those associated with the secondary structure.

4. The *quaternary structure* is the result of the clustering between more than 1 folded polypeptide.

A protein can adopt different shapes, and each shape has a relative energy. Lower-energy shapes are more stable than higher-energy shapes, and a protein with a relatively high-energy shape may *denature* (unfold) and then *renature* (refold), adopting a more stable shape. A protein that is almost completely denatured is called a *random coil*. Random coils are unstable because they are high-energy shapes; however, some can renature, adopting more stable shapes.

Two scientists discuss protein shape.

Scientist 1

The *active shape* (the biologically functional shape) of a protein is always identical to the protein's lowest-energy shape. Any other shape would be unstable. Because a protein's lowest-energy shape is determined by its primary structure, its active shape is determined by its primary structure.

Scientist 2

The active shape of a protein is dependent upon its primary structure. However, a protein's active shape may also depend on its *process of synthesis*, the order (in time) in which the amino acids were bonded together. As synthesis occurs, stable, local structures form within short segments of the polypeptide chain due to hydrogen bonding. These local structures may be different than the local structures associated with the protein's lowest-energy shape. After synthesis, these structures persist, trapping the protein in an active shape that has more energy than its lowest-energy shape.

29. According to the passage, protein shapes with relatively low energy tend to:

A. be random coils.
B. lack a primary structure.
C. become denatured.
D. maintain their shape.

30. The information in the passage indicates that when a protein is completely denatured, it still retains its original:

F. primary structure.
G. secondary structure.
H. tertiary structure.
J. quaternary structure.

31. Scientist 2's views differ from Scientist 1's views in that only Scientist 2 believes that a protein's active shape is partially determined by its:

A. quaternary structure.
B. amino acid sequence.
C. process of synthesis.
D. tertiary folding patterns.

32. A student has 100 balls. The balls are various colors. The student chooses 15 balls and aligns them in a row. The spatial order in which the balls were placed corresponds to which of the following levels of structure in a protein?

F. Primary structure
G. Secondary structure
H. Tertiary structure
J. Quaternary structure

33. Suppose proteins are almost completely denatured and then allowed to renature in a way that allows them to have their lowest-energy shapes. Which of the following statements about the proteins is most consistent with the information presented in the passage?

A. If Scientist 1 is correct, all of the proteins will have their active shapes.
B. If Scientist 1 is correct, all of the proteins will have shapes different than their active shapes.
C. If Scientist 2 is correct, all of the proteins will have their active shapes.
D. If Scientist 2 is correct, all of the proteins will have shapes different than their active shapes.
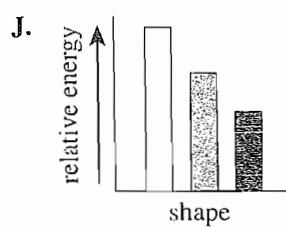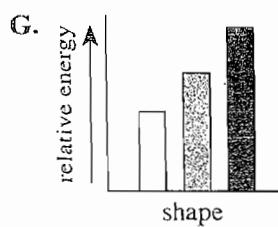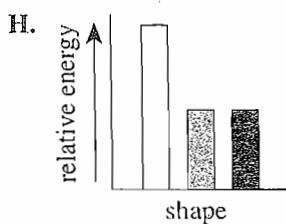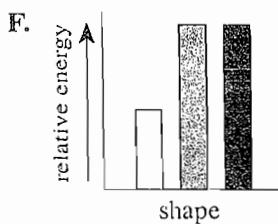
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34. Which of the following diagrams showing the relationship between a given protein's shape and its relative energy is consistent with Scientist 2's assertions about the energy of proteins, but is NOT consistent with Scientist 1's assertions about the energy of proteins?

F.

H.

G.

J.

Key
☐ randomly coiled shape
▨ active shape
▦ most stable shape

35. Scientist 2 says that a protein may be trapped in a moderately high-energy shape. Which of the following findings, if true, could be used to *counter* this argument?

A. Once a protein has achieved its tertiary structure, all of the folding patterns at the local level are stable.

B. Enough energy is available in the environment to overcome local energy barriers, driving the protein to its lowest-energy shape.

C. During protein synthesis, the secondary structure of a protein is determined before the tertiary structure is formed.

D. Proteins that lose their tertiary structure or quaternary structure also tend to lose their biological functions.

Passage VII

Tiny marine organisms build shells from *calcite* ($CaCO_3$) dissolved in seawater. After the organisms' death, the shells sink. Some shells dissolve before they reach the seafloor, but some form layers of *calcareous ooze* ($CaCO_3$-rich sediment). Figure 1 shows how seawater's degree of saturation with respect to $CaCO_3$ and the rate at which $CaCO_3$ dissolves change with depth. The $CaCO_3$ *compensation depth* (CCD) represents the depth beneath which $CaCO_3$ dissolves faster than it precipitates. Figure 2 shows typical depths at which various seafloor sediments are found. Figure 3 shows the percent coverage for 2 seafloor sediments in 3 oceans.
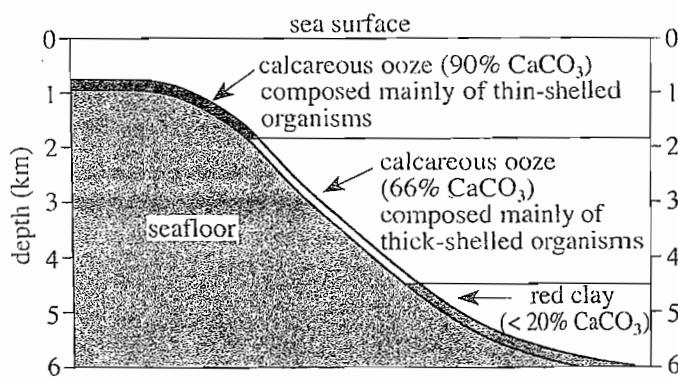

Figure 2

Figure 2 adapted from M. Grant Gross, *Oceanography*, 6th ed. ©1990 by Macmillan Publishing Company.
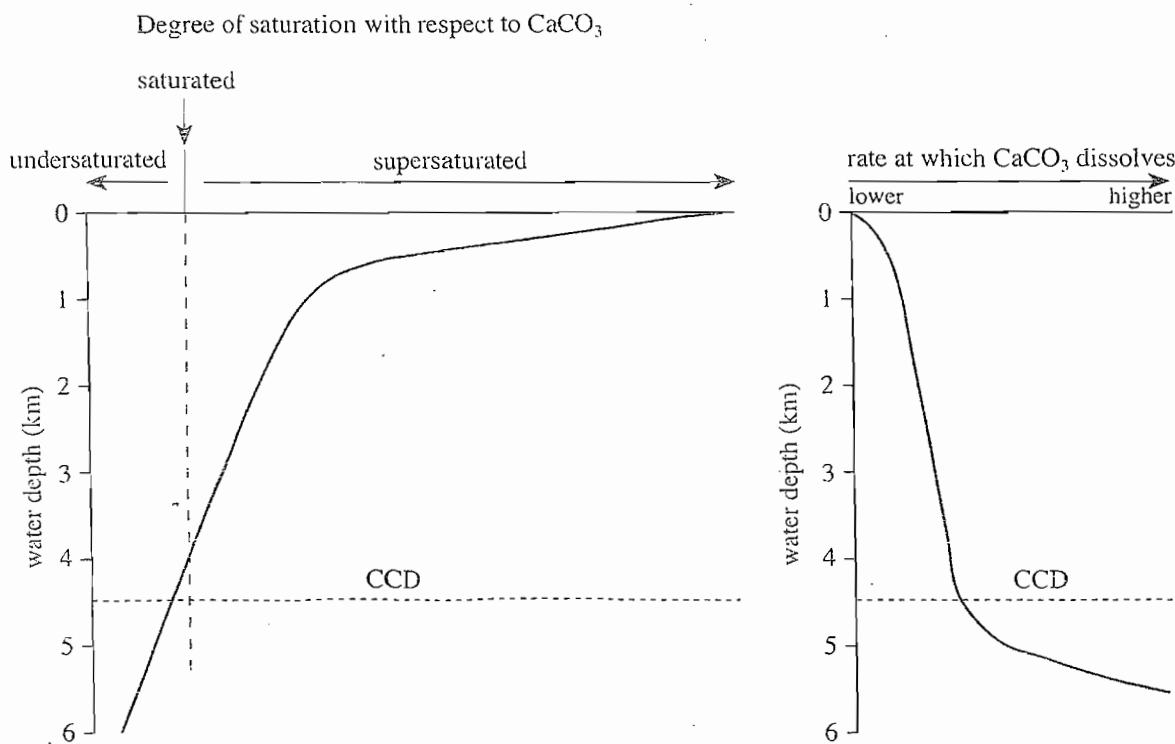

Figure 1

Figure 1 adapted from J. Andrews, P. Brimblecombe, T. Jickells, and P. Liss, *An Introduction to Environmental Chemistry*. ©1996 by Blackwell Science, Ltd.

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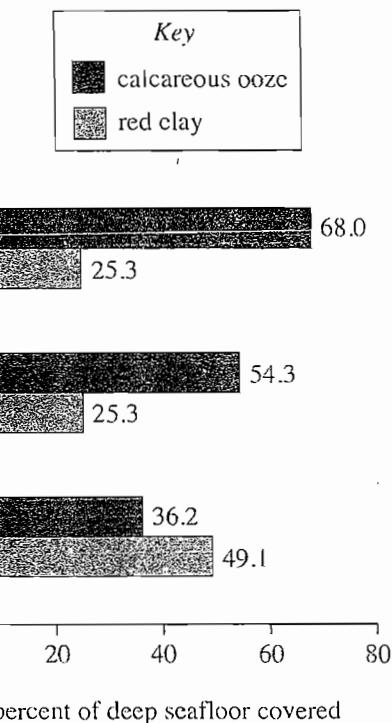
Figure 3

Figure 3 adapted from Harold Thurman, *Introductory Oceanography*. ©1991 by Macmillan Publishing Company.

37. The data in Figure 2 support which of the following statements about the relative thickness of marine organism shells and the depths at which calcareous oozes composed of those shells are found? Calcareous oozes formed mainly from thick-shelled organisms are found:

   A. at shallower depths than those formed mainly from thin-shelled organisms.
   B. at greater depths than those formed mainly from thin-shelled organisms.
   C. over the same depth range as those formed mainly from thin-shelled organisms.
   D. in the same areas of a given ocean as those formed mainly from thin-shelled organisms.

38. $CaCO_3$ often precipitates out of seawater in areas where the seawater is shallow (less than 1 km deep). According to Figure 1, this most likely occurs because seawater in those locations:

   F. is undersaturated with respect to $CaCO_3$.
   G. is saturated with respect to $CaCO_3$.
   H. is supersaturated with respect to $CaCO_3$.
   J. contains no $CaCO_3$.

39. According to Figure 1, above what maximum depth is seawater supersaturated with respect to $CaCO_3$?

   A. 3.0 km
   B. 3.5 km
   C. 4.0 km
   D. 4.5 km

36. Assume that the Arctic Ocean seafloor has an average depth of 4.9 km. According to Figures 2 and 3, the Arctic Ocean seafloor is most likely covered with:

   F. calcareous ooze only.
   G. nearly the same areas of calcareous ooze and red clay.
   H. a greater area of calcareous ooze than of red clay.
   J. a greater area of red clay than of calcareous ooze.

40. Figure 1 shows that the rate at which $CaCO_3$ dissolves increases the most between which of the following depths?

   F. Between 3.5 km and 4.0 km
   G. Between 4.0 km and 4.5 km
   H. Between 4.5 km and 5.0 km
   J. Between 5.0 km and 5.5 km

END OF TEST 4

STOP! DO NOT RETURN TO ANY OTHER TEST.

072951   **Practice Writing Test Prompt 2**

Your Signature (do not print): _____

Print Your Name Here: _____

Your Date of Birth:

☐☐ – ☐☐ – ☐☐☐☐
Month   Day   Year

Form 2WT

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.

Practice Writing Test Prompt 2

In some high schools, students are required to complete a certain number of community service hours prior to graduation. Some people think community service is a good requirement because they think students will benefit from this experience. Other people think schools should not require community service because students will resent the requirement and, as a result, will not benefit from the experience. In your opinion, should high schools require students to complete a certain number of hours of community service?

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.

0876008

WRITING TEST

STOP here with the Writing Test.

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

Scale Score Conversion Table
Practice Test 2

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