

Practice Multiple-Choice Tests

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Form 1267C



Directions

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

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

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

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

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

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

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

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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

Dragonfly

The nature trail is six feet wide and seven miles long. It slithers through the forest like a snake curving, and bending along the banks of the river.

The county cleared this path and paved it with packed

gravel, so they would have a peaceful place to hike and bike.

I ride this trail nearly every day—not on a bike, but on “Luigi.” That’s the nickname I gave my

motorized wheelchair. 5 Today, Luigi’s battery

1. **A.** NO CHANGE
B. snake, curving and bending
C. snake curving and bending,
D. snake, curving, and bending,
2. Which of the following alternatives to the underlined portion would NOT be acceptable?
F. path, paving
G. path and then paved
H. path before paving
J. path paved
3. **A.** NO CHANGE
B. knowing they
C. that they
D. people
4. **F.** NO CHANGE
G. day; not on a bike
H. day not on a bike
J. day, not on a bike;
5. If the writer were to delete the preceding sentence, the essay would primarily lose:
A. a reason why the narrator is in the forest.
B. a detail important for understanding the essay.
C. a contrast to the lighthearted tone of the essay.
D. nothing at all; this information is irrelevant to the essay.

1

is fully charged, I know I can go all the way to the end of the trail and back. But I always carry a cell phone on me just in case.

Luigi's motor moves slowly as we venture along the trail. I can hear the gravel quietly crunching beneath

Luigi's rubber wheels. I hear the songs of cardinals in the trees and the clamor of crickets in the grasses. I hear the murmur of water slipping over time-smoothed rocks. It is September, and some of the trees are starting to blush red and orange at their tips. The wind ruffles my hair and chills my face as I bounce gently, along in my padded chair.

Bicyclists streak past in a blur of color and a cloud of

dust I don't understand their hurry. Luigi can go fast, but I like to ride slowly, to see like a hovering dragonfly. I want to see everything that has changed, grown, bloomed, or died since yesterday. Today I notice that a spider has woven a web between some honeysuckle bushes by the bridge. I see that the bank of vibrant yellow black-eyed Susans by the barbed wire fence is starting to dry and fade away. I spend an hour; looking and listening and learning.

- 6. F. NO CHANGE
G. charged, because of that,
H. charged, this means that
J. charged, so
- 7. Which choice would most logically and effectively emphasize the positive, friendly attitude the narrator has toward Luigi?
A. NO CHANGE
B. travels safely
C. proceeds carefully
D. purrs softly
- 8. F. NO CHANGE
G. You can hear
H. One can even hear
J. While hearing
- 9. A. NO CHANGE
B. Due to the fact that it is
C. It turns into the month of
D. Because it has turned into
- 10. F. NO CHANGE
G. gentle, along
H. gently along
J. gentle along,
- 11. Which choice most effectively leads into the new subject of this paragraph?
A. NO CHANGE
B. The sun begins to set
C. Nature always impresses me
D. Days can go by quickly
- 12. F. NO CHANGE
G. dust, however,
H. dust.
J. dust,
- 13. A. NO CHANGE
B. hour, looking,
C. hour looking;
D. hour looking



And now my ride is finished for today. I leave the trail and come out into the open, manicured park at the trails end. There, my older brother helps me out of my chair and into his waiting van. He puts Luigi in the back, and I return to the world of pavement, streetlights, and traffic. But in my mind, I am still gliding through the forest. I am like the water, flowing over ancient stones. Inside, I am still a dragonfly.

14. F. NO CHANGE
G. trail's
H. trails'
J. trails's

Question 15 asks about the preceding passage as a whole.

15. Suppose the writer's goal had been to write an essay illustrating the pleasure that people can take in nature. Would this essay accomplish that goal?
- A. Yes, because it focuses on a variety of wildflowers that the narrator enjoys.
B. Yes, because it focuses on the narrator's joy at having access to nature.
C. No, because it describes the world of the city as being more important to the narrator.
D. No, because it focuses primarily on the functioning of the narrator's motorized wheelchair.

PASSAGE II

Beneath the Streets of New York

At 2 p.m., on October 27, 1904; thousands of New York City residents poured into the streets of Manhattan. Their cheers competed with the blare of ferryboat horns and the whistle of power plants. The city was celebrating an incredible engineering feat; the completion of the first section of the New York City

Subway. 18

16. F. NO CHANGE
G. 2 p.m. on October 27, 1904, thousands
H. 2 p.m., on October 27, 1904; thousands,
J. 2 p.m. on October 27, 1904, thousands,

17. A. NO CHANGE
B. feat, over
C. feat:
D. feat

18. The writer is concerned about the level of detail in the preceding sentence and is considering deleting the phrase "the first section of" from it. If the writer were to make this deletion, the paragraph would primarily lose information that:
- F. reveals how expansive the New York City Subway would become.
G. clarifies that only part of the subway system had been completed by October 27, 1904.
H. makes clear that by October 27, 1904, construction of the second section of the subway was already underway.
J. provides evidence that New York City residents at this celebration believed the entire subway system was complete.



The original subway line was 9.1 miles long and had twenty-eight stations. [A] The first train took twenty-six minutes to complete the route, which ran from City Hall to West 145th Street in under a half an hour. Tens of thousands of New Yorkers could now avoid traffic jams

by traveling underneath the streets. [B]

As early as 1865, there had been proposals for a New York subway, but that took decades to resolve the many political, financial, and technical challenges. The engineer, William Barclay Parsons accepted responsibility for overseeing this project.

Parsons decided that most of the subway tunnel would be constructed using an innovation engineering method known as “cut and cover.” [C] First, workers used

picks and shovels to remove roads and dig a deep trench. After installing wooden braces to hold back the earth, workers built a concrete floor. Tunnel walls were

created: with layers of brick, ceramic blocks, tar-soaked felt for waterproofing, and concrete. The roof was made from arch-shaped wooden molds also covered with concrete. Next, track beds were filled with crushed stone, and rails were secured to wooden ties. Finally, the roof was covered with tar-soaked felt, and the roads were rebuilt.

19. A. NO CHANGE
B. in the completion of its route.
C. in twenty-six minutes.
D. DELETE the underlined portion and end the sentence with a period.
20. Which choice would most effectively conclude the sentence by indicating clearly how the subway system could address the problem described in the first part of the sentence?
E. NO CHANGE
G. traveling more effectively.
H. trying something new.
J. using a system.
21. A. NO CHANGE
B. it
C. those
D. DELETE the underlined portion.
22. F. NO CHANGE
G. engineer—William Barclay Parsons
H. engineer William Barclay Parsons,
J. engineer William Barclay Parsons
23. A. NO CHANGE
B. innovate engineer
C. innovative engineering
D. innovate engineering
24. E. NO CHANGE
G. into the ground deeply under where the roads had previously been removed by them.
H. a trench far down below since it was necessary to shovel deep into the earth in this method known as “cut and cover.”
J. DELETE the underlined portion and end the sentence with a period.
25. A. NO CHANGE
B. created, with
C. created with
D. created with:



Brightly lit stations welcomed the public, many
of them were skeptical of traveling underground. [D] It
26

didn't take long for New Yorkers to adapt, however. The
27
day after the subway opened, one newspaper reported that
the riders were emerging from underground "having
finished what will be to them the daily routine of the
rest of their lives." 28

26. F. NO CHANGE
G. of whom
H. of who
J. DELETE the underlined portion.

27. A. NO CHANGE
B. therefore.
C. for instance.
D. that is.

28. The writer wishes to add a sentence that describes the magnitude and expansiveness of the New York City Subway system today. Given that all the following statements are true, which one, if added here, would most clearly and effectively accomplish the writer's goal?
- F. Even today, for many New Yorkers that newspaper's account is right!
G. Today, riding a portion of the New York City Subway's 656 miles of mainline track is a daily routine for more than 4 million people.
H. Today, the New York City Transit Authority continuously maintains two separate fleets of subway cars.
J. Now, a typical New York City Subway waiting platform ranges from 400 to 700 feet.

Question 29 asks about the preceding passage as a whole.

29. Upon reviewing the essay and finding that some information has been left out, the writer composes the following sentence incorporating that information:
- This technique, also known as "open excavation," became the standard for subway tunneling for nearly sixty years.
- If the writer were to add this sentence to the essay, the sentence would most logically be placed at Point:
- A. A.
B. B.
C. C.
D. D.



PASSAGE III

Diego Rivera: The People's Painter

In the 1920s, Mexican artist Diego Rivera (1886–1957) practiced the art of painting frescoes, large murals done on fresh plaster. Rivera's frescoes appeared on the outside walls of buildings in Mexico City, in plain sight of any passerby. This brought art out of the elite galleries by catering to the upper class and literally to the public.

Rivera attracted for his belief controversy that the working class should wield more political power. His

dominant artistic subject in his art was as expansive

than his frescoes: the role played by laborers in the past,

present, and future of humanity. One of his frescoes depict a progression through time and can be read as time lines from left to right. For example, on the left side of a fresco, there might be field workers hunched over in fatigue and surrounded by the tools of their trade. On the right side, after they have moved through history. The same workers stand tall, radiating strength and confidence. Such

empowerment of the worker were to be the bright future Rivera envisioned for all the workers of the world.

30. The writer wants to suggest that the art of the fresco had been in decline previous to Rivera. Which choice best accomplishes that goal?
- F. NO CHANGE
G. engaged in
H. influenced
J. revived
31. A. NO CHANGE
B. that catered
C. while catering
D. and catered
32. F. NO CHANGE
G. Rivera should wield more political power for his belief that controversy attracted the working class.
H. Rivera for his controversy attracted belief that the working class should wield more political power.
J. Rivera attracted controversy for his belief that the working class should wield more political power.
33. A. NO CHANGE
B. that he was interested in
C. that he focused on
D. DELETE the underlined portion.
34. F. NO CHANGE
G. then
H. as
J. if
35. A. NO CHANGE
B. Many
C. Each
D. Any one
36. F. NO CHANGE
G. history; the
H. history, the
J. history—the
37. A. NO CHANGE
B. if it were
C. was
D. if it was



Rivera received various prestigious commissions while he was in the United States. In the 1930s, he was commissioned by the Ford Motor Company to paint a twenty-seven-panel fresco in the Detroit Institute of Arts.

The fresco, *Detroit Industry*, portrays some of the varied groups that shaped American culture and constituted its workforce. The central panel on the north wall shows the

manufacture of a 1932 Ford V-8 engine, when the central panel on the south wall shows the production of this same

car's exterior. Smaller panels depicting workers in a

variety of other Detroit industries. 42 The fresco is a

dynamic work because, by capturing the energy, humanity, and collective achievement of the Detroit workers,

celebrates all working men and women. However, Rivera considered it the greatest achievement of his career.

38. F. NO CHANGE
G. various, prestigious,
H. various, and prestigious
J. various and prestigious,

39. If the underlined phrase were deleted, the sentence would primarily lose a detail that:
A. repeats information found elsewhere in the sentence.
B. is necessary for the sentence to be grammatically complete.
C. provides new and relevant information to the sentence.
D. is ambiguous and unnecessary to the sentence.

40. F. NO CHANGE
G. since
H. thus
J. and

41. A. NO CHANGE
B. depict
C. depicting some
D. had depicted

42. The writer is thinking of adding the following phrase to the end of the preceding sentence (changing the period after *industries* to a comma):
such as medicine, pharmaceuticals, and chemicals.

Should the writer make this addition there?

- F. Yes, because it offers relevant examples that help to specify a broad term.
G. Yes, because it helps explain how the panels were physically constructed.
H. No, because it provides a sampling of industries rather than a full listing.
J. No, because it digresses from the main point of the sentence.
43. A. NO CHANGE
B. that,
C. while,
D. that was,
44. F. NO CHANGE
G. Despite this,
H. Regardless,
J. DELETE the underlined portion.



PASSAGE IV

After All These Years

[1]

[1] I met Joan, the person who would be my best friend for the next twenty years, the first morning I played outside my family's new California home. [2] I was five years old. [3] We became inseparable childhood friends, and we remained close, even though we attended different high schools and colleges.

[2]

Joan enjoyed jogging and painting cityscapes. I loved hiking trips and writing. We shared an appreciation of the outdoors and a passion for our creative work. More

importantly though we enjoyed being together. Through our history of shared experiences, we formed a rare understanding of each other.

[3]

[1] Last February, I had to travel to Fairbanks, Alaska, for my work. [2] Though we had rarely spoken to each other in fifteen years, when I called Joan to suggest a meeting, her voice sounded wonderfully familiar.

45. A. NO CHANGE
B. close, yet even
C. close; even
D. close. Even

46. Which of the following alternatives to the underlined portion would NOT be acceptable?
E. cityscapes, while I
G. cityscapes; I
H. cityscapes. I, on the other hand,
J. cityscapes I

47. A. NO CHANGE
B. important though
C. importantly, though,
D. important, though

48. Which choice would best express the narrator's positive reaction to speaking with Joan and the narrator's fondness for her friend?
F. NO CHANGE
G. she said that she would rearrange her schedule so that we could meet.
H. she told me that she immediately recognized my voice.
J. her quick words and the sound of her laugh surprised me.

1



1

[3] Through my parents, whom were still in touch with

49

Joan's father, I learned that Joan was currently living in

50

Fairbanks. 51

[4]

I parked my rental car in downtown Fairbanks, and to keep the battery from freezing, I plugged the engine into an electrical outlet in the parking lot

so the battery would stay warm. It was twenty below

52

zero that afternoon, and the sky shone with a pale gray

53

light. 54 I called Joan from a pay phone. She soon met me on a street corner that was close to her art studio.

[5]

As we walked upstairs to her studio, we slipped into our familiar habits, talking about the people in our lives and our work. We talked just as easily as we had in the past, when we would sit in the field behind Joan's house atop the rabbit hutch and discuss our friends and our hopes for the future.

56

- 49. A. NO CHANGE
- B. who
- C. whose
- D. which

- 50. F. NO CHANGE
- G. we
- H. they
- J. he

- 51. Which of the following sequences of sentences makes Paragraph 3 most logical?
- A. NO CHANGE
- B. 1, 3, 2
- C. 2, 1, 3
- D. 3, 2, 1

- 52. F. NO CHANGE
- G. located in the downtown area of the city.
- H. so the battery would continue to work properly despite the cold weather.
- J. DELETE the underlined portion and end the sentence with a period.

- 53. Which of the following alternatives to the underlined portion would NOT be acceptable?
- A. was glowing
- B. glowed
- C. shined
- D. shoned

- 54. If the writer were to delete the preceding sentence, the essay would primarily lose:
- F. an indication of the narrator's response to the weather conditions in Fairbanks.
- G. a detailed analysis of why the narrator had to plug the car engine into an electrical outlet.
- H. descriptive details that help set the scene of the narrator's meeting with Joan.
- J. unnecessary details that repeat information given earlier in the paragraph.

- 55. A. NO CHANGE
- B. fell upon
- C. dropped by
- D. returned with

- 56. F. NO CHANGE
- G. in the field atop the rabbit hutch behind Joan's house
- H. atop the rabbit hutch in the field behind Joan's house
- J. behind Joan's house in the field atop the rabbit hutch



[6]

When I saw Joan's new paintings, I immediately remembered her distinct way of emphasizing shadows and light. I remembered everything about her: how she would get so absorbed in her work that she'd forget to eat, how

57

she disliked talking in the morning, how she was firm in

58

her decisions. The years of separation had not affected the
heart of our connection, our friendship.

59

57. Which of the following alternatives to the underlined portion would NOT be acceptable?

- A. engrossed in
- B. acquired by
- C. immersed in
- D. engaged in

58. Which of the following alternatives to the underlined portion would NOT be acceptable?

- F. with
- G. regarding
- H. along
- J. about

59. Given that all the choices are true, which one would best conclude this essay by effectively summarizing its main idea?

- A. NO CHANGE
- B. Sadly, I realized that although we might be able to meet once a year, Joan and I would probably never again live in the same city.
- C. Even though we had followed different interests, I was glad to know that both Joan and I had been able to devote time to our creative work.
- D. As a result of the time we spent together when we were very young, I'll always remember Joan.

Question 60 asks about the preceding passage as a whole.

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

Yet, despite such strong ties, we moved far apart as adults and lost touch.

This sentence would most logically be placed:

- F. after Sentence 2 in Paragraph 1.
- G. at the end of Paragraph 2.
- H. at the end of Paragraph 4.
- J. after the first sentence in Paragraph 6.



PASSAGE V

Three Stars, Many Stories

Many thousands of years ago, people around the world began attaching different stories to the stars in the

night sky. The Sun sets gradually the images of a winged horse, a drinking gourd, a heartbroken hero appear in lights overhead. In some cases, a pattern of stars may represent a simple object that has meaning in day-to-day life. In other cases, the pattern, or constellation, may be

a figure with a different kind of meaning.

Three bright stars that I've read about have acquired

significance for many viewers around the globe. In some

agricultural parts of Japan, for instance, these three stars are commonly referred to as *Karasuki* and represent a

three-pronged plow. It's awesome that in other parts of Japan, the same three stars appear in a constellation

61. A. NO CHANGE
B. stories, which they connected to
C. stories, to which they related to
D. stories because of
62. F. NO CHANGE
G. sets, gradually,
H. sets, and gradually
J. setting gradually
63. A. NO CHANGE
B. pattern, or constellation
C. pattern or constellation,
D. pattern or constellation:
64. Given that all the choices are true, which one ends this paragraph with the clearest allusion to *Orion*, as the constellation is described later in the essay?
F. NO CHANGE
G. that is interesting but hard to see without a telescope.
H. who plays a dramatic role in a myth that has been told and retold for centuries.
J. that is also represented in the night sky once the Sun has set and the stars emerge.
65. Given that all the choices are true, which one offers visual information about the stars as they appear in modern times?
A. NO CHANGE
B. have different names in different cultures
C. formed long before any of us were born
D. together roughly form a straight line
66. Which of the following alternatives to the underlined portion would NOT be acceptable?
F. observers
G. overseers
H. night-sky watchers
J. stargazers
67. Given that all the choices are true, which one provides a detail that has the most direct connection to the information that follows in this sentence?
A. NO CHANGE
B. distant
C. populated
D. historic
68. F. NO CHANGE
G. You'll be amazed to learn that in
H. Consider, if you will, the notion that in
J. In



representing the floor-length sleeve of a woman's kimono.

In still other parts of Japan, this shining trio appears in the center of an hourglass-shaped drum, a *tsuzumi*.

On the other side of the world, the same three stars has traditionally represented three zebras to the Namaqua people of South Africa. In

the mythology, of the Tswana people of South Africa, these same stars represent three pigs.

[1] *Orion* is the name many Westerners use for a constellation that contains these three stars. [2] In Greek mythology, Orion is a mighty hunter. [3] In the night sky, he carries a bow and arrow and is accompanied by his loyal dogs, *Canis Major* and *Canis Minor*. [4] The three stars form the brilliant belt around the hunter's waist. [5] In the sky with Orion are the animals he used to hunt on Earth—from a small rabbit to a huge bull. [6] The scorpion that, according to myth, killed Orion inhabits the sky as well, but at such a distance because it can never sting the hunter again. [7] Even in an age of big-screen televisions, their is still no show on Earth as big as the night sky. [8] Stars up there play different roles around the world, their dazzling careers span thousands of years. [75]

69. A. NO CHANGE
B. In Japan's imagination, this
C. In Japan, this
D. This

70. F. NO CHANGE
G. have
H. could of
J. has been

71. A. NO CHANGE
B. mythology of the Tswana people, of South Africa
C. mythology, of the Tswana people, of South Africa
D. mythology of the Tswana people of South Africa,

72. F. NO CHANGE
G. so when
H. this means
J. that

73. A. NO CHANGE
B. they're
C. there
D. but there

74. F. NO CHANGE
G. world, and their
H. world, with
J. world,

75. The writer wants to divide the preceding paragraph into two to create a concluding paragraph that is free of direct references to a specific culture's view of the three stars. The best place to begin the new paragraph would be at the beginning of Sentence:
- A. 4.
B. 5.
C. 6.
D. 7.

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.

1. The weekly fee for staying at the Pleasant Lake Campground is \$20 per vehicle and \$10 per person. Last year, weekly fees were paid for v vehicles and p persons. Which of the following expressions gives the total amount, in dollars, collected for weekly fees last year?

- A. $20v + 10p$
- B. $20p + 10v$
- C. $10(v + p)$
- D. $30(v + p)$
- E. $10(v + p) + 20p$

2. If $r = 9$, $b = 5$, and $g = -6$, what does $(r + b - g)(b + g)$ equal?

- F. -20
- G. -8
- H. 8
- J. 19
- K. 20

3. A copy machine makes 60 copies per minute. A second copy machine makes 80 copies per minute. The second machine starts making copies 2 minutes after the first machine starts. Both machines stop making copies 8 minutes after the first machine started. Together, the 2 machines made how many copies?

- A. 480
- B. 600
- C. 680
- D. 720
- E. 960

4. Marlon is bowling in a tournament and has the highest average after 5 games, with scores of 210, 225, 254, 231, and 280. In order to maintain this exact average, what *must* be Marlon's score for his 6th game?

- F. 200
- G. 210
- H. 231
- J. 240
- K. 245

5. Joelle earns her regular pay of \$7.50 per hour for up to 40 hours of work in a week. For each hour over 40 hours of work in a week, Joelle is paid $1\frac{1}{2}$ times her regular pay. How much does Joelle earn for a week in which she works 42 hours?

- A. \$126.00
- B. \$315.00
- C. \$322.50
- D. \$378.00
- E. \$472.50

6. Which of the following mathematical expressions is equivalent to the verbal expression "A number, x , squared is 39 more than the product of 10 and x "?

- F. $2x = 39 + 10x$
- G. $2x = 39x + 10x$
- H. $x^2 = 39 - 10x$
- J. $x^2 = 39 + x^{10}$
- K. $x^2 = 39 + 10x$

7. If $9(x - 9) = -11$, then $x = ?$

- A. $-\frac{92}{9}$
- B. $-\frac{20}{9}$
- C. $-\frac{11}{9}$
- D. $-\frac{2}{9}$
- E. $\frac{70}{9}$

2**2**

8. Discount tickets to a basketball tournament sell for \$4.00 each. Enrico spent \$60.00 on discount tickets, \$37.50 less than if he had bought the tickets at the regular price. What was the regular ticket price?
- F. \$ 2.50
G. \$ 6.40
H. \$ 6.50
J. \$ 7.50
K. \$11.00
9. The expression $(3x - 4y^2)(3x + 4y^2)$ is equivalent to:
- A. $9x^2 - 16y^4$
B. $9x^2 - 8y^4$
C. $9x^2 + 16y^4$
D. $6x^2 - 16y^4$
E. $6x^2 - 8y^4$
10. A rectangle has an area of 32 square feet and a perimeter of 24 feet. What is the shortest of the side lengths, in feet, of the rectangle?
- F. 1
G. 2
H. 3
J. 4
K. 8
11. In $\triangle ABC$, the sum of the measures of $\angle A$ and $\angle B$ is 47° . What is the measure of $\angle C$?
- A. 47°
B. 86°
C. 94°
D. 133°
E. 143°
12. In the school cafeteria, students choose their lunch from 3 sandwiches, 3 soups, 4 salads, and 2 drinks. How many different lunches are possible for a student who chooses exactly 1 sandwich, 1 soup, 1 salad, and 1 drink?
- F. 2
G. 4
H. 12
J. 36
K. 72
13. For 2 consecutive integers, the result of adding the smaller integer and triple the larger integer is 79. What are the 2 integers?
- A. 18, 19
B. 19, 20
C. 20, 21
D. 26, 27
E. 39, 40
14. A function $f(x)$ is defined as $f(x) = -8x^2$. What is $f(-3)$?
- F. -72
G. 72
H. 192
J. -576
K. 576
15. If $3^x = 54$, then which of the following must be true?
- A. $1 < x < 2$
B. $2 < x < 3$
C. $3 < x < 4$
D. $4 < x < 5$
E. $5 < x$
16. What is the least common multiple of 70, 60, and 50?
- F. 60
G. 180
H. 210
J. 2,100
K. 210,000
17. Hot Shot Electronics is designing a packing box for its new line of Acoustical Odyssey speakers. The box is a rectangular prism of length 45 centimeters, width 30 centimeters, and volume 81,000 cubic centimeters. What is the height, in centimeters, of the box?
- A. 75
B. 60
C. 48
D. 27
E. 18
18. Four points, A , B , C , and D , lie on a circle having a circumference of 15 units. B is 2 units counterclockwise from A . C is 5 units clockwise from A . D is 7 units clockwise from A and 8 units counterclockwise from A . What is the order of the points, starting with A and going clockwise around the circle?
- F. A, B, C, D
G. A, B, D, C
H. A, C, B, D
J. A, C, D, B
K. A, D, C, B
19. A group of cells grows in number as described by the equation $y = 16(2)^t$, where t represents the number of days and y represents the number of cells. According to this formula, how many cells will be in the group at the end of the first 5 days?
- A. 80
B. 160
C. 400
D. 512
E. 1,280

2



2

20. The length of a rectangle is 3 times the length of a smaller rectangle. The 2 rectangles have the same width. The area of the smaller rectangle is A square units. The area of the larger rectangle is kA square units. Which of the following is the value of k ?

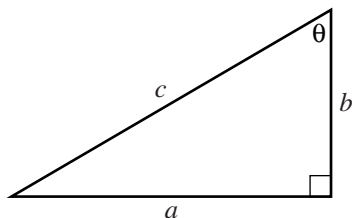
F. $\frac{1}{9}$
 G. $\frac{1}{3}$
 H. 1
 J. 3
 K. 9

21. $(a + 2b + 3c) - (4a + 6b - 5c)$ is equivalent to:

A. $-4a - 8b - 2c$
 B. $-4a - 4b + 8c$
 C. $-3a + 8b - 2c$
 D. $-3a - 4b - 2c$
 E. $-3a - 4b + 8c$

22. The dimensions of the right triangle shown below are given in feet. What is $\sin \theta$?

F. $\frac{a}{b}$
 G. $\frac{a}{c}$
 H. $\frac{b}{c}$
 J. $\frac{b}{a}$
 K. $\frac{c}{a}$



23. In a basketball passing drill, 5 basketball players stand evenly spaced around a circle. The player with the ball (the passer) passes it to another player (the receiver). The receiver cannot be the player to the passer's immediate right or left and cannot be the player who last passed the ball. A designated player begins the drill as the first passer. This player will be the receiver for the first time on which pass of the ball?

A. 4th
 B. 5th
 C. 6th
 D. 10th
 E. 24th

24. Lines p and n lie in the standard (x,y) coordinate plane. An equation for line p is $y = 0.12x + 3,000$. The slope of line n is 0.1 greater than the slope of line p . What is the slope of line n ?

F. 0.012
 G. 0.02
 H. 0.22
 J. 1.2
 K. 300

25. The expression $-8x^3(7x^6 - 3x^5)$ is equivalent to:

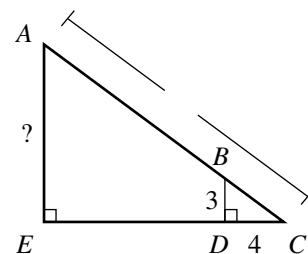
A. $-56x^9 + 24x^8$
 B. $-56x^9 - 24x^8$
 C. $-56x^{18} + 24x^{15}$
 D. $-56x^{18} - 24x^{15}$
 E. $-32x^4$

26. $-3|-6 + 8| = ?$

F. -42
 G. -6
 H. -1
 J. 6
 K. 42

27. In right triangle $\triangle ACE$ below, \overline{BD} is parallel to \overline{AE} , and \overline{BD} is perpendicular to \overline{EC} at D . The length of \overline{AC} is 20 feet, the length of \overline{BD} is 3 feet, and the length of \overline{CD} is 4 feet. What is the length, in feet, of \overline{AE} ?

A. 10
 B. 12
 C. 15
 D. 16
 E. 17



28. As part of a lesson on motion, students observed a cart rolling at a constant rate along a straight line. As shown in the chart below, they recorded the distance, y feet, of the cart from a reference point at 1-second intervals from $t = 0$ seconds to $t = 5$ seconds.

t	0	1	2	3	4	5
y	14	19	24	29	34	39

Which of the following equations represents this data?

F. $y = t + 14$
 G. $y = 5t + 9$
 H. $y = 5t + 14$
 J. $y = 14t + 5$
 K. $y = 19t$

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