WEEK1.6

SAT Prep Test 1—Math
Module 2—Easier

Turn to Section 2 of your answer sheet (p. 76) to answer the questions in this section.

DIRECTIONS

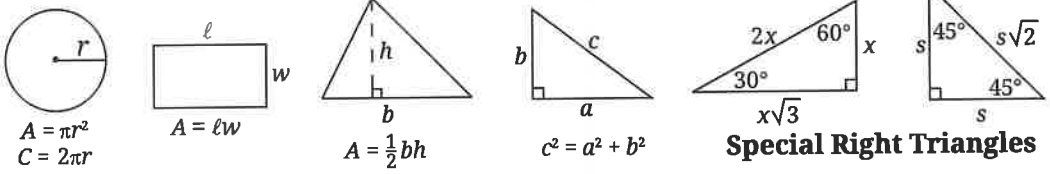
The questions in this section address a number of important math skills.
Use of a calculator is permitted for all questions.

NOTES

Unless otherwise indicated:

- All variables and expressions represent real numbers.
- Figures provided are drawn to scale.
- All figures lie in a plane.
- The domain of a given function f is the set of all real numbers x for which $f(x)$ is a real number.

REFERENCE



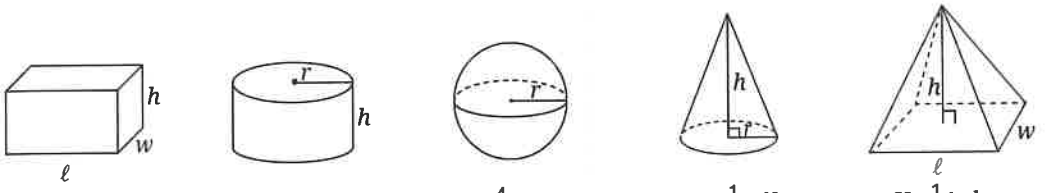
$A = \pi r^2$
$C = 2\pi r$

$A = \ell w$

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

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

Special Right Triangles



$V = \ell wh$

$V = \pi r^2 h$

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

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

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

The number of degrees of arc in a circle is 360.
The number of radians of arc in a circle is 2π.
The sum of the measures in degrees of the angles of a triangle is 180.

CONTINUE

For multiple-choice questions, solve each problem, choose the correct answer from the choices provided, and then circle your answer in this book. Circle only one answer for each question. If you change your mind, completely erase the circle. You will not get credit for questions with more than one answer circled or for questions with no answers circled.

For student-produced response questions, solve each problem and write your answer next to or under the question in the test book as described below.

- Once you've written your answer, circle it clearly. You will not receive credit for anything written outside the circle or for any questions with more than one circled answer.
- If you find **more than one correct answer**, write and circle only one answer.
- Your answer can be up to 5 characters for a **positive** answer and up to 6 characters (including the negative sign) for a **negative** answer, but no more.
- If your answer is a **fraction** that is too long (over 5 characters for positive, 6 characters for negative), write the decimal equivalent.
- If your answer is a **decimal** that is too long (over 5 characters for positive, 6 characters for negative), truncate it or round at the fourth digit.
- If your answer is a **mixed number** (such as $3\frac{1}{2}$), write it as an improper fraction (7/2) or its decimal equivalent (3.5).
- Don't enter **symbols** such as a percent sign, comma, or dollar sign in your circled answer.

CONTINUE

WEEK1.6

1 Mark for Review

An automobile factory makes 1,200 vehicles in 1 day. If the factory operates continuously for 1 week at this rate, how many vehicles will it make?

2 Mark for Review

If $10a = 30$, what is the value of $9a$?

(A) 27

(B) 40

(C) 270

(D) 360

3 Mark for Review

Talula baked 340 cookies and gave 20% of them to her neighbors. How many of the cookies did Talula give to her neighbors?

(A) 14

(B) 34

(C) 54

(D) 68

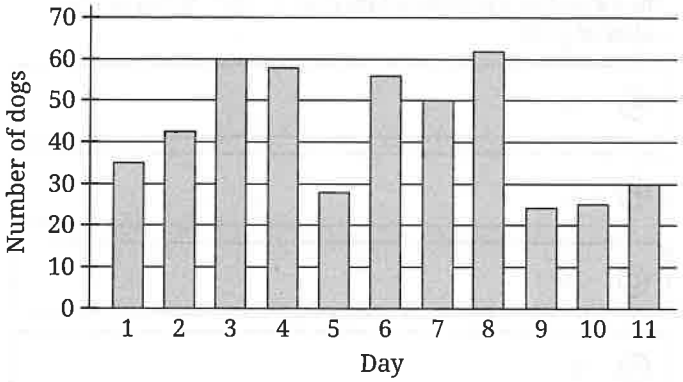
4 Mark for Review

$$h(x) = 11x - 5$$

The function h is defined by the given equation. When $x = 6$, what is the value of $h(x)$?

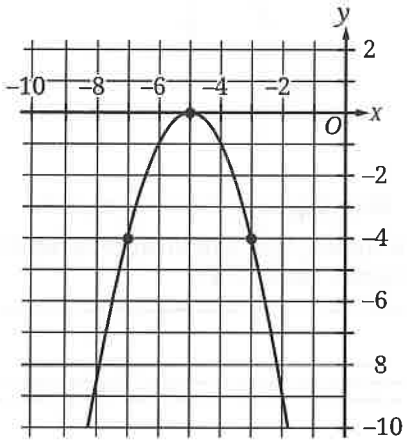
CONTINUE

5 Mark for Review



The distribution of 469 dogs that visited a dog park over an 11-day period is shown in the bar graph. How many dogs visited this dog park on day 7?

6 Mark for Review



The graph shown intercepts the x-axis at $(x, 0)$. What is the value of x?

7 Mark for Review

Which of the following expressions is equivalent to $14a + 7ab^2$?

(A) $2a(7 + 7b^2)$

(B) $7a(2 + b^2)$

(C) $7a(a + 14b)$

(D) $7b(2ab)$

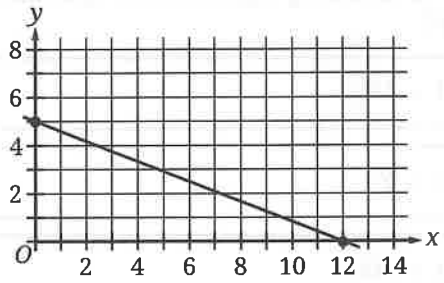
8 Mark for Review

Rectangle A has a length of 80 and a width of 24. What is the perimeter of rectangle A?

CONTINUE

WEEK1.6

9 Mark for Review



The point with coordinates $(3, n)$ lies on the line shown. What is the value of n?

(A) $\frac{13}{4}$

(B) $\frac{15}{4}$

(C) $\frac{19}{5}$

(D) $\frac{24}{7}$

10 Mark for Review

A magician has a hat with 18 cards inside. The face of each card has a number from 1 to 18 written on it, with a different number on each card. If the magician takes out a single card, what is the probability that the number written on it is not 6?

(A) $\frac{1}{18}$

(B) $\frac{6}{18}$

(C) $\frac{12}{18}$

(D) $\frac{17}{18}$

11 Mark for Review

The function g is defined by $g(x) = -2x^2$. What is the value of $g(3)$?

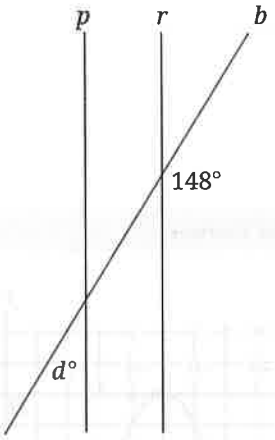
(A) −18

(B) −12

(C) −10

(D) −6

12 Mark for Review



Note: Figure not drawn to scale.

In the figure shown, line b intersects parallel lines p and r. What is the value of d?

(A) 16

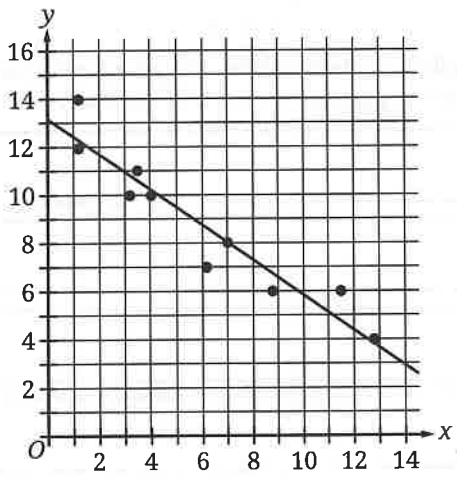
(B) 32

(C) 74

(D) 148

CONTINUE

13 Mark for Review



Which of the following equations could define the line of best fit for the scatterplot shown?

(A) $y = -13 - 0.7x$

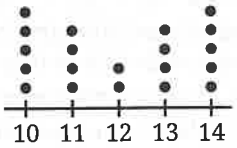
(B) $y = -13 + 0.7x$

(C) $y = 13 - 0.7x$

(D) $y = 13 + 0.7x$

14 Mark for Review

Data Set R



There are 20 values in data set R, represented by the dot plot shown. Data set S is created by subtracting 8 from each of the values in data set R. Which of the following correctly compares the ranges and the means of data sets R and S?

(A) The range of data set S is less than the range of data set R, and the mean of data set S is equal to the mean of data set R.

(B) The range of data set S is less than the range of data set R, and the mean of data set S is less than the mean of data set R.

(C) The range of data set S is equal to the range of data set R, and the mean of data set S is equal to the mean of data set R.

(D) The range of data set S is equal to the range of data set R, and the mean of data set S is less than the mean of data set R.

CONTINUE

WEEK1.6

15 Mark for Review

During a video game session, a player scored a total of 1,000 points for c cooperative missions and s solo missions. The equation $20c + 25s = 1{,}000$ represents this situation. Which of the following is the best interpretation of the number 25 in this context?

(A) The player completed 25 cooperative missions during this session.

(B) The player scored 25 points for each cooperative mission during this session.

(C) The player completed 25 solo missions during this session.

(D) The player scored 25 points for each solo mission during this session.

16 Mark for Review

$$g(x) = \frac{\sqrt{x}}{2}$$

The function g is defined by the given equation. If $g(x) = 5$, what is the value of x?

(A) 10

(B) 25

(C) 50

(D) 100

17 Mark for Review

$$y = x^2 - 7$$
$$x = -7$$

When graphed in the xy-plane, the given equations intersect at the point (x, y). What is the value of y?

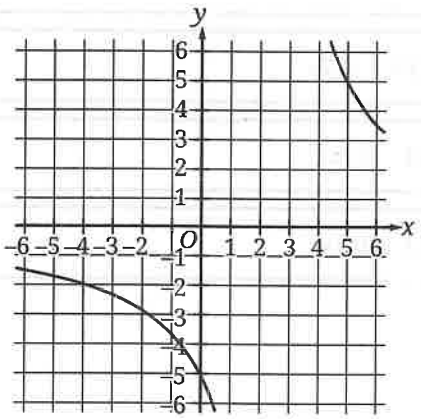
(A) −21

(B) −7

(C) 42

(D) 49

18 Mark for Review



A partial graph of $y = f(x)$ in the xy-plane is shown. Which of the following is the value of $f(0)$?

(A) −5

(B) $-\frac{1}{4}$

(C) 0

(D) 5

CONTINUE

WEEK1.6

19 Mark for Review

Which of the following equations defines a line in the xy-plane that has a slope of $\frac{1}{6}$ and passes through the point $(12, -7)$?

(A) $y = \frac{x}{6} - 9$

(B) $y = \frac{x}{6} - 7$

(C) $y = -9x + \frac{1}{6}$

(D) $y = 12x - 7$

20 Mark for Review

How many distinct real solutions does the equation $4x^2 - 8x - 5 = 0$ have?

(A) Exactly one

(B) Exactly two

(C) Infinitely many

(D) Zero

21 Mark for Review

A jar contains a total of 37 red and blue tokens used to play a game. The mass of one red token is 90 grams, and the mass of one blue token is 120 grams. If the combined mass of the tokens is 3,810 grams, how many of the tokens in the jar are blue?

(A) 5

(B) 16

(C) 21

(D) 32

22 Mark for Review

Circle R is defined by the equation $(x + 3)^2 + y^2 = 64$. If circle S is the result of shifting the graph of circle R to the right 7 units in the xy-plane, what is the equation of circle S?

(A) $(x + 3)^2 + (y - 7)^2 = 64$

(B) $(x + 3)^2 + (y + 7)^2 = 64$

(C) $(x - 4)^2 + y^2 = 64$

(D) $(x + 10)^2 + y^2 = 64$

STOP

If you finish before time is called, you may check your work on this module only.
Do not turn to any other module in the test.