

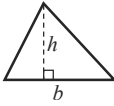
SAT Math Practice Test (No-calculator)
Time – 25 minutes
20 Questions

Download and print an answer sheet available at ivyglobal.com/study.

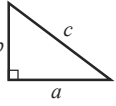
Directions: For these questions, determine the solution to each problem presented and choose the best answer choices of those provided. Be sure to fill in the respective circle on your answer sheet. Any free space may be used to work out any problems, should you need space for scratchwork.

- Notes**
- You may not use a calculator on this section.
 - When a problem includes a figure, the figure is meant to be a helpful resource for solving that problem. If a problem does not state that its figure is NOT to scale, you may assume the figure provides a correct representation of the information in the problem.
 - The domain of any function f is the set of all real numbers x for which $f(x)$ is a real number, unless otherwise stated.

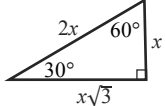
Reference



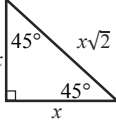
$A = \frac{1}{2}bh$

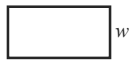


$a^2 + b^2 = c^2$

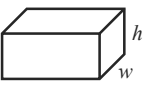


Special Triangles

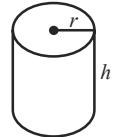





$A = lw$



$V = lwh$



$V = \pi r^2 h$

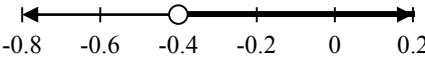
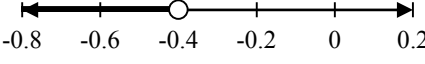
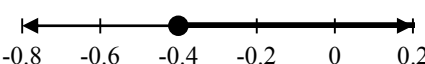
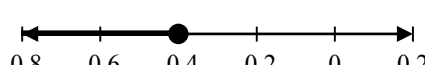


$A = \pi r^2$
 $C = 2\pi r$

There are 360° in a circle.
 The sum of the angles in a triangle is 180° .

$50x > -20$

1. Which of the following represents all values of x that satisfy the inequality above?

- (A) 
- (B) 
- (C) 
- (D) 

2. John runs three laps around a 400 m track at a constant speed. If it takes John 10 minutes to run all three laps, what is his speed in meters per second?

- (A) 1
 (B) 2
 (C) 3
 (D) 10

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3. If $m - 2 = \frac{x}{5}$, what is the value of $10x$ in terms of m ?

- (A) $10m - 20$
- (B) $10m - 2$
- (C) $50m - 100$
- (D) $50m - 2$

x	$f(x)$
10	70
15	60
20	50

4. The table above shows values for the linear function $f(x)$. What is $f(30)$?

- (A) 25
- (B) 30
- (C) 35
- (D) 40

5. Armin is leasing a car. He pays \$2,000 for the first month and \$400 for every month after the first. If Armin has \$20,000 to spend, for how many months can he lease the car?

- (A) 5
- (B) 10
- (C) 46
- (D) 50

$$2y - x = 12$$

$$4x + y = 12$$

6. Based on the system of equations above, what is the value of $x + y$?

- (A) 6
- (B) 8
- (C) 12
- (D) 24

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Brick Type	Price Per Brick
Type <i>A</i>	\$3
Type <i>B</i>	\$5

7. The price of two different types of bricks is shown in the chart above. The number of bricks predicted to be sold, b , varies according to the price per brick, p , according to the equation $b = -150p + 950$. How many Type *A* bricks are predicted to be sold?

- (A) 150
- (B) 200
- (C) 500
- (D) 950

8. If $2x^2 - 9x - 5 = 0$ and $x > 0$, what is the value of x ?

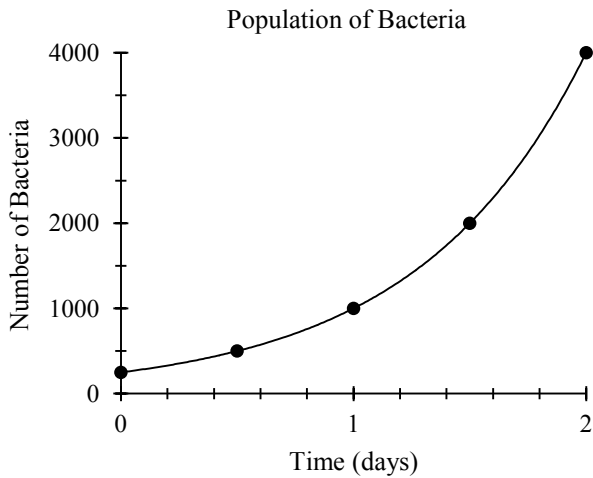
- (A) $\frac{1}{2}$
- (B) 1
- (C) 2
- (D) 5

9. Jocelyn bought a new computer 2 years ago for \$1000. If the computer's value decreased by 10% each year, how much is it now worth?

- (A) \$1000
- (B) \$900
- (C) \$810
- (D) \$800

10. If a and b are the two x -intercepts of the graph of $y = x^2 - 36$, and $a > b$, what is the value of $\frac{a}{b}$?

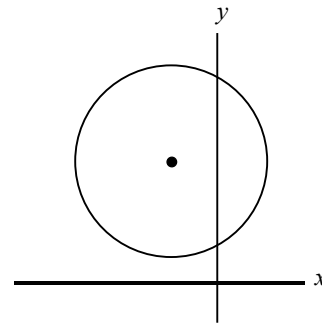
- (A) -1
- (B) 0
- (C) 1
- (D) 6



11. A biologist is growing a colony of bacteria that doubles every 12 hours, as shown in the graph above. There were initially 250 bacteria in the colony. Which equation correctly models number of bacteria N as a function of time t , measured in days since the population began growing?
- (A) $N = 500 \times t^{12}$
 (B) $N = 250 \times 2^{t/2}$
 (C) $N = 250 \times 2^t$
 (D) $N = 250 \times 2^{2t}$

$$\sqrt{2x - 5} = x - 2$$

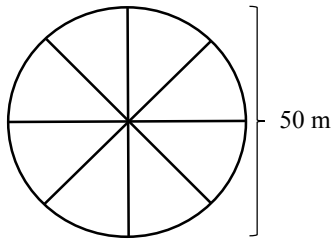
12. Which of the following describes the solution set of the equation above?
- (A) There are no real solutions.
 (B) There is one real solution.
 (C) There are two real solutions.
 (D) There are three real solutions.



13. A circle with radius 6 is centered at $(-3, 7)$ as shown above. What is the circle's equation?
- (A) $(x + 3)^2 + (y - 7)^2 = 36$
 (B) $(x - 3)^2 + (y + 7)^2 = 36$
 (C) $(x + 3)^2 + (y - 7)^2 = 6$
 (D) $(x - 3)^2 + (y + 7)^2 = 6$

-
14. What is the least common multiple of p^5q^8r and $p^6q^4r^2$?
- (A) p^5q^4
 (B) p^5q^4r
 (C) $p^6q^8r^2$
 (D) $p^{11}q^{12}r^3$

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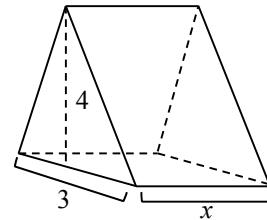


15. The figure above shows a wheel with a diameter of 50 m. If one full revolution of the wheel takes 3 minutes, what is the average speed of a point on the outer edge of the wheel, in meters per second?

- (A) $\frac{5\pi}{36}$
- (B) $\frac{5\pi}{18}$
- (C) $\frac{25\pi}{3}$
- (D) $\frac{50\pi}{3}$

GRID-INS

16. If $1 < x + \frac{1}{3} < 2$, what is one possible value for $3x$?



17. The volume of a triangular prism is equal to the area of one of its triangular bases multiplied by its length. If the triangular prism above has a volume of 36, what is the value of x ?

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18. In the xy -plane, lines m and n are perpendicular. Line m is represented by the equation $y = 3x - 1$. If line n contains the points $(2, 0)$ and $(0, k)$, what is the value of k ?

$$\frac{10}{x-2} - \frac{5}{x+1} = \frac{5}{2}$$

20. What is a positive value of x that satisfies the equation above?

-
19. Wei throws a ball to Sam. The height of the ball is given by the function $h(t) = -t^2 + 4t + 1.5$, where h is the height in meters and t is the time in seconds. If the ball has a height of 1.5 meters when Sam catches it, for how many seconds was the ball in the air?

STOP

If you complete the problem set before time elapses, you may review your responses for this section.

Do not view or begin working on any other sections.