

LESSON 47 PSAT Practice

This is a timed practice test. Get a timer, a bubble answer sheet, and blank sheets of paper for your calculations. When you are ready, set the timer for **25 minutes** and begin. Do not use a calculator. Mark all your answers on the answer sheet. Only answers marked on the answer sheet can be scored. After the test, make sure you review what you missed.

1. If $x = -5$ and $y = 2$, what is the value of the expression $x^2 + 2xy + y^2$?

A) -31 B) -9 C) 9 D) 49

2. If 40% of x is 16 and $\frac{2}{3}$ of y is 12, what is the value of $x - 2y$?

A) 4 B) 22 C) 24 D) 28

3. $\frac{1}{2}x + \frac{1}{4} = \frac{1}{3}$

What is the solution to the equation above?

A) -6 B) $\frac{1}{6}$ C) $\frac{5}{6}$ D) 6

4. Which of the following is the value(s) of x that satisfies the equation $|x - 7| + 3 = 2$?

A) 6 B) 6 and 8
C) None D) All real numbers

5. $y = -2x + 8$ and $3x - y = 7$

If each equation in the system of equations above is graphed in the xy -plane, which ordered pair (x, y) represents the point where the lines intersect?

A) $(0, 8)$ B) $(1, 6)$
C) $(3, 2)$ D) $(4, 5)$

6. The formula $D = rt$ gives the distance D traveled at a speed of r over time t . Which formula can be used to determine the time it takes to travel a certain distance at a certain speed?

A) $t = \frac{D}{r}$ B) $t = Dr$

C) $t = Drt$ D) $t = \frac{r}{D}$

7. $2x + 6y = 3$ and $4x + 12y = k$

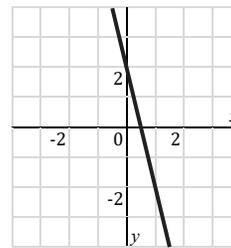
Which value of k makes the system above have infinitely many solutions?

A) 3 B) 6 C) 9 D) 12

8. A line has a slope of -3 and passes through the points $(-1, 4)$ and $(3, k)$. What is the value of k ?

A) -8 B) -2 C) $\frac{8}{3}$ D) $\frac{11}{3}$

9. Which equation represents the line below?



A) $x + 4y = 8$
B) $x - 4y = -8$
C) $4x + y = 2$
D) $4x - y = -2$

Continue to the next page.

10. A rental car company charges \$20 per day plus \$0.10 per mile traveled. Isaac rented a car for three days and was charged \$105 plus tax. How many miles did he drive?
A) 300 B) 450 C) 850 D) 1,050

11. A typical page contains around 200 words when double-spaced. Jessica can type 40 words per minute. What is her rate in pages per hour?
A) 5 pages/hour B) 8.3 pages/hour
C) 12 pages/hour D) 30 pages/hour

12. A bus leaves a station at 1 PM traveling at an average speed of 60 miles per hour. An hour later, a second bus leaves the station traveling at an average speed of 70 miles per hour in the same direction. At what time will the second bus overtake the first?
A) 6 PM B) 7 PM
C) 8 PM D) 9 PM

13. $h = 5 + 1.5x$

Sam planted a new tree in his garden. The equation above gives the height h , in feet, of the tree in x years. What does the number 5 represent in the equation?

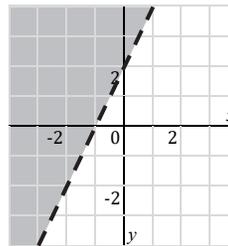
- A) The height of the tree in 1.5 years
B) The height the tree grows each year
C) The height of the tree when it was planted
D) The number of years the tree had grown when it was planted

14. Two pumps are used to fill a water tank that already contains 50 gallons of water. One pump fills at a rate of 3 gallons per minute and the other pump at a rate of 5 gallons per minute. Which expression represents the amount of water in the tank after t minutes?

- A) $(50 + 3 + 8)t$ B) $(50 + 5) + 3t$
C) $(50 + 3) + 5t$ D) $50 + (3 + 5)t$

15. Olivia is filling up 60-milliliter bottles with 0.2 liters of water. What is the maximum number of bottles she can fill up?
A) 3 B) 4 C) 33 D) 34

16. Which inequality represents the graph shown below?



- A) $x - 2y < -4$
B) $x - 2y > -4$
C) $2x - y < -2$
D) $2x - y > -2$

17. A restaurant has 15 tables that can seat a total of 70 people. Some tables seat 4 people, and the others seat 6 people. How many tables seat 4 people?
A) 6 B) 8 C) 10 D) 12

STOP

This is the end of the test. If you finish before time is up, check your work.