

## LESSON 46 PSAT Practice

This is a timed practice test. Get a timer, a bubble answer sheet (provided in Appendix B), 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. Which of the following is equivalent to the expression  $4 - 3(x - 2) + 2x$ ?

A)  $-x - 2$                       B)  $-x + 10$   
C)  $5x - 2$                       D)  $5x + 10$

2.  $2x - 5 = 4 - x$

If  $x$  is the solution to the equation above, what is the value of  $x + 3$ ?

A)  $-3$     B)  $0$     C)  $3$     D)  $6$

3.  $2x + y = 2$  and  $x + 3y = -9$

Which ordered pair  $(x, y)$  satisfies the system of equations above?

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

4. Which of the following is equivalent to the inequality  $14 - 2x > 3(x - 2)$ ?

A)  $x > -4$                       B)  $x > 4$   
C)  $x < 4$                         D)  $x > 8$

5.  $7 + 3x = 3(x + c) - 5$

Which value of  $c$  makes the equation above have infinitely many solutions?

A)  $0$     B)  $1$     C)  $2$     D)  $4$

6.  $|3 - 2x| = 7$

If  $a$  and  $b$  are the solutions to the equation above, what is the value of  $a + b$ ?

A)  $3$     B)  $5$     C)  $7$     D)  $9$

7.  $x - y = 5$  and  $x + 2y = -1$

If  $(p, q)$  is a solution to the system above, what is the value of  $p$ ?

A)  $-1$     B)  $-2$     C)  $3$     D)  $6$

8.  $F = \frac{9}{5}C + 32$

The formula above gives the Fahrenheit temperature  $F$  for a given Celsius temperature  $C$ . Which formula gives the Celsius temperature  $C$  for a given Fahrenheit temperature  $F$ ?

A)  $C = \frac{5}{9}F - 32$     B)  $C = \frac{5}{9}(F - 32)$

C)  $C = \frac{9}{5}F - 32$     D)  $C = \frac{9}{5}(F - 32)$

9. A recipe calls for 2 quarts of milk, but Josh has only 2 cups of milk. How much more milk does he need in cups? (1 quart = 2 pints and 1 pint = 2 cups)

A)  $2$     B)  $4$     C)  $6$     D)  $8$

Continue to the next page.

10. A hiking club has 45 members. The ratio of males to females is 2:3. How many males are in the club?

A) 9      B) 18      C) 27      D) 30

11. The line with the equation  $x - y = 3$  does NOT pass through which of the four quadrants?

A) I      B) II      C) III      D) IV

12.  $y = 50 + 30x$

The equation above models the total cost,  $y$ , that an electrician charges for  $x$  hours of service. The total cost consists of a one-time fee plus an hourly charge. If the equation is graphed in the  $xy$ -plane, what is indicated by the  $y$ -intercept of the graph?

A) A one-time fee of \$30  
 B) A one-time fee of \$50  
 C) An hourly charge of \$30  
 D) An hourly charge of \$50

13. An airplane 8 kilometers above the ground begins descending at an average speed of 350 meters per minute. Which expression represents the altitude of the plane, in kilometers, after  $t$  minutes?

A)  $8 - 0.35t$       B)  $8 - 350t$   
 C)  $8000 - 0.35t$       D)  $8000 - 350t$

14. Mark is 18 years old now. Two years ago, Mark was twice as old as Kate. How many years older than Kate is Mark?

A) 6      B) 8      C) 10      D) 12

15. Natalie bought a hat using a \$2 coupon off the regular price. With sales tax of 5% added, she paid \$8.40 in total. Which equation can be used to determine the regular price,  $x$ , of the hat?

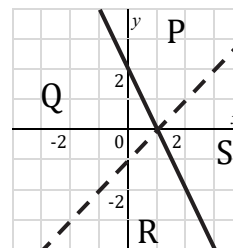
A)  $1.05x + 2 = 8.4$   
 B)  $1.05x - 2 = 8.4$   
 C)  $1.05(x + 2) = 8.4$   
 D)  $1.05(x - 2) = 8.4$

16. A group of  $x$  adults and  $y$  children went to see a movie. Movie tickets cost \$8 for adults and \$6 for children. The group bought 10 tickets and paid \$72 in total. Which system of equations represents the relationship between  $x$  and  $y$ ?

A)  $x + y = 10$  and  $8x + 6y = 72$   
 B)  $x + y = 10$  and  $8x + 6y = 10 \cdot 72$   
 C)  $x + y = 72$  and  $8x + 6y = 10$   
 D)  $x + y = 72$  and  $8x + 6y = 10 \cdot 72$

17.  $x - y > 1$  and  $2x + y \leq 2$

The system of inequalities above is graphed below. Which region represents the solution to the system?



A) Region P  
 B) Region Q  
 C) Region R  
 D) Region S

**STOP**

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