

Systems of Equations and Inequalities

Chapter Test Form B

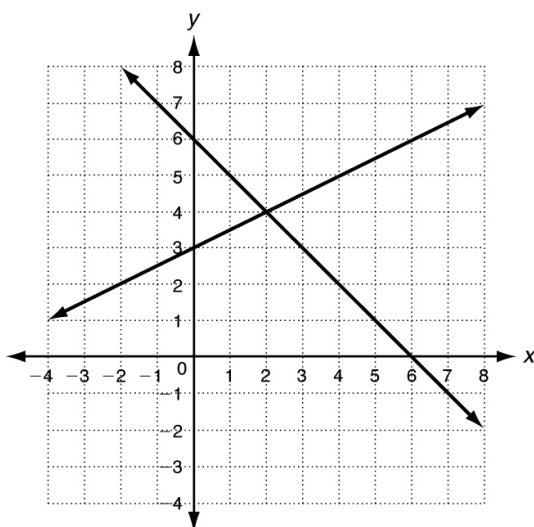
Select the best answer.

1. Which ordered pair is a solution of

$$\begin{cases} x - y = -3 \\ 2x + y = 0 \end{cases} ?$$

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

2. The graph of a system of linear equations is shown below. What is the solution of the system?



- F (0, 3)
- G (0, 6)
- H (2, 4)
- J (6, 0)

3. Solve by substitution: $\begin{cases} y = x + 3 \\ 2x + y = 9 \end{cases}$

- A (1.5, 4.5)
- B (2, 5)
- C (3, 6)
- D (6, 9)

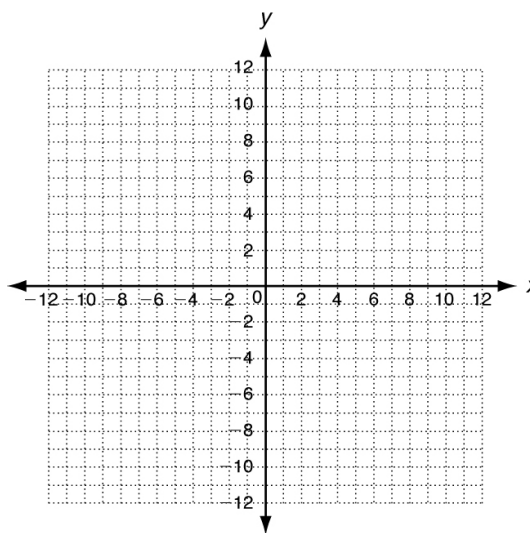
4. Solve by elimination: $\begin{cases} 3x + 2y = -1 \\ x - 2y = 11 \end{cases}$

- F (-5, 8)
- G $(-\frac{5}{2}, \frac{17}{4})$
- H (3, -4)
- J $(4, -\frac{7}{2})$

5. Sam needs to make a long-distance call from a pay phone. With his prepaid phone card, he will be charged \$1.00 to connect and \$0.50 per minute. If he places a collect call with the operator he will be charged \$3.00 to connect and \$0.25 per minute. In how many minutes will the phone card and the collect call cost the same?

- A 5 min
- B $5\frac{1}{3}$ min
- C 8 min
- D 16 min

6. Solve by any method: $\begin{cases} 2x + y = 11 \\ x + 3y = 18 \end{cases}$



- F $(-\frac{15}{7}, \frac{47}{7})$
- G (3, 5)
- H $(\frac{7}{2}, \frac{15}{4})$
- J (5, 1)

7. Which term describes a system with no solution?

- A consistent
- B dependent
- C inconsistent
- D independent

Systems of Equations and Inequalities

Chapter Test Form B continued

8. Which equation would make this system consistent and dependent?

$$\begin{cases} y = 2x - 4 \\ \underline{\hspace{2cm}} \end{cases}$$

F $y = 2x + 5$ H $2x + y = -4$

G $6x - 3y = 12$ J $y = 3x - 4$

9. Solve $\begin{cases} 4x = 2y + 6 \\ y = 2x - 3 \end{cases}$.

A no solution

B $(0, 0)$

C $\left(\frac{3}{2}, 0\right)$

D infinitely many solutions

10. Which ordered pair is a solution of $y > 5x - 2$?

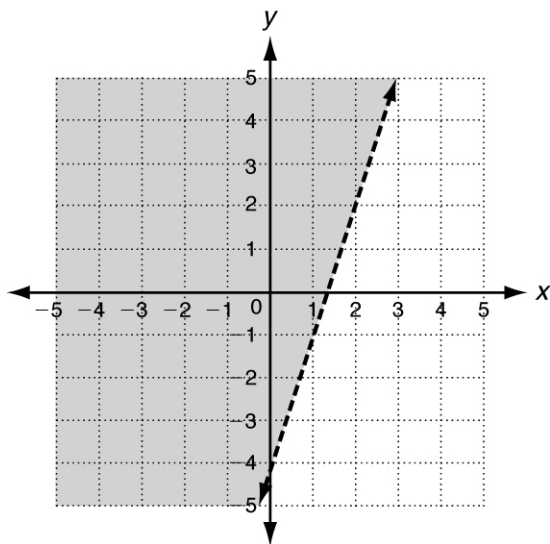
F $(1, 5)$

H $(3, 13)$

G $(2, 7)$

J $(4, 4)$

11. The solution of which linear inequality is graphed below?



A $3x - y > -4$

C $-3x + y \geq -4$

B $3x - y < 4$

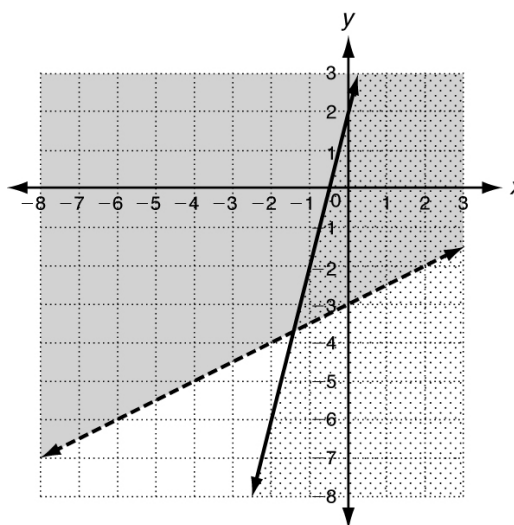
D $3x + y \leq 4$

12. For which system of linear inequalities is the ordered pair $(-1, 3)$ a solution?

F $\begin{cases} y \leq -x + 6 \\ y < 2x - 3 \end{cases}$ H $\begin{cases} y \geq -x + 6 \\ y < 2x + 3 \end{cases}$

G $\begin{cases} y > -x + 6 \\ y \geq 2x - 3 \end{cases}$ J $\begin{cases} y \leq -x + 6 \\ y > 2x - 3 \end{cases}$

13. The graph of a system of linear inequalities is shown below. Which ordered pair is a solution of the system?



A $(-3, -6)$

C $(0, -2)$

B $(-2, 0)$

D $(3, -6)$

14. A factory makes widgets x and gadgets y . Widgets cost \$3 and gadgets cost \$5 each to make. The boss wants at least 10 widgets and 20 gadgets per day. Total costs need to be at most \$300 per day. What system represents this situation?

F $\begin{cases} x \geq 10 \\ y \geq 20 \\ x + y \leq 300 \end{cases}$ H $\begin{cases} x \geq 10 \\ y \geq 20 \\ 3x + 5y \leq 300 \end{cases}$

G $\begin{cases} x \geq 10 \\ y \geq 20 \\ 3x + 5y \geq 300 \end{cases}$ J $\begin{cases} x \geq 10 \\ y \geq 20 \\ 5x + 3y \leq 300 \end{cases}$