PROBLEM SET 3-2
(Solving Systems Algebraically)

True or False? Provide an explanation to verify your answer.

1. The ordered pair $(1,2)$ is a solution to the equation $2x + y = 4$.

2. The ordered pair $(1,2)$ is a solution to $\begin{cases} 2x + y = 4 \\ 3x - y = 6 \end{cases}$

3. The ordered pair $(3,4)$ is a solution to $\begin{cases} 4x - y = 5 \\ 4x - y = -5 \end{cases}$

4. If two distinct straight lines in the coordinate plane are not parallel, then they intersect in exactly one point.

5. No ordered pair satisfies $\begin{cases} y = 3x - 5 \\ y = 3x + 1 \end{cases}$

6. The graph of the equation $y - 2x = 3$ is a straight line.

7. The absolute value function has a V-shaped graph.

8. The point $(-3,2)$ is a solution to the inequality $y > -3x + 2$.

9. The graph $\begin{cases} x + y = -3 \\ x + 2y = 1 \end{cases}$ has more than one solution.

10. The graph of $y \le 7x - 4$ uses a dotted line.

Solve each system of equations using elimination or substitution.

11. $\begin{cases} 3x + 2y = 6 \\ 6x + 3y = 6 \end{cases}$

12. $\begin{cases} 3x - y = -11 \\ 5x - 2y = -16 \end{cases}$

13. $\begin{cases} 2x - y = -6 \\ 4x - 2y = 5 \end{cases}$

14. $\begin{cases} 3x - y = -2 \\ 8x - 15y = 7 \end{cases}$

15. $\begin{cases} 3x - 7y = -26 \\ 5x - y = 10 \end{cases}$

16. $\begin{cases} 5x + 3y = 4 \\ 5x + y = 16 \end{cases}$

17. $\begin{cases} x - y = 3 \\ 2x - 2y = 6 \end{cases}$

18. $\begin{cases} 5x + 6y = -45 \\ 2x - y = 16 \end{cases}$

19. $\begin{cases} 7x - 4y = -3 \\ 2x + 5y = -7 \end{cases}$

20. $\begin{cases} 5x - 2y = 10 \\ 3x - 6y = -18 \end{cases}$

21. $\begin{cases} 12x + 3y = 16 \\ 36x + 9y = -32 \end{cases}$

22. $\begin{cases} x - 4y = -2 \\ 3x - 8y = 1 \end{cases}$