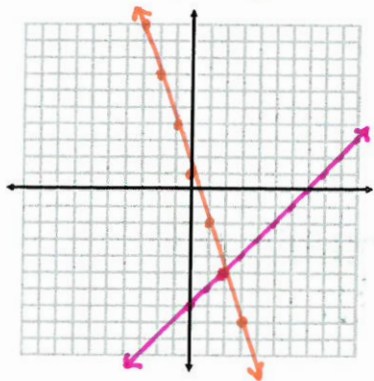**Solve the linear system by graphing. Check your solution.**
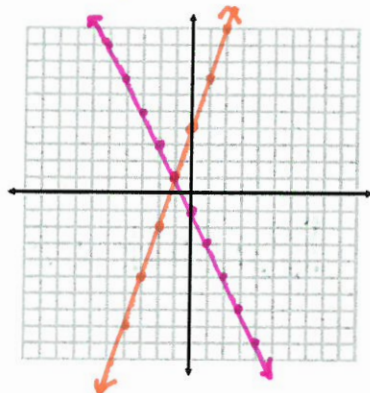
5. $y = -3x + 1$
$y = x - 7$

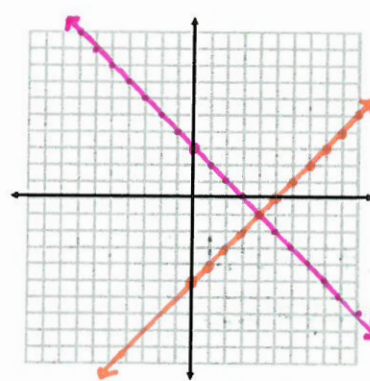**(2,-5)**

6. $y = 3x + 4$
$y = -2x - 1$

(-1,1)

7. $x + y = 3$ $y = -x + 3$
$x - y = 5$ $y = x - 5$

(4,-1)

Solve the linear system using substitution.

8. $y = 2x - 7$
$x + 2y = 1$

(3,-1)

9. $x + 4y = 9$
$x - y = 4$

(5,1)

10. $2x + y = -15$
$y - 5x = 6$

(-3,-9)

11. **ART** Kara spends $16 on tubes of paint and disposable brushes for an art project. Each tube of paint costs $3, and each disposable brush costs $.50. Kara purchases twice as many brushes as tubes of paint. Find the number of brushes and the number of tubes of paint that she purchases.

4 tubes of paint, 8 brushes

Solve the linear system using elimination.

12. $x + 2y = 13$
$x - 2y = -7$

(3,5)

13. $4x - 5y = 14$
$-4x + y = -6$

(1,-2)

14. $x + 7y = 12$
$-2x + 7y = 18$

(-2,2)

Solve the linear system using elimination.

18. $-x + y = -4$
    $2x - 3y = 5$

    $(7,3)$

19. $x + 6y = 28$
    $2x - 3y = -19$

    $(-2,5)$

20. $3x - 5y = -7$
    $-4x + 7y = 8$

    $(-9,-4)$

24. **CAR MAINTENANCE** You pay $24.50 for 10 gallons of gasoline and 1 quart
    of oil at a gas station. Your friend pays $22 for 8 gallons of the same
    gasoline and 2 quarts of the same oil. Find the cost of 1 quart of oil.

    $10x + y = 24.50$
    $8x + 2y = 22$

    $2 : \text{Cost of 1 quart of oil.}$

    x: $ of gasoline
    y: $ of a quart
    of oil

Tell whether the linear system has *one solution*, *no solution*, or *infinitely many solutions*. Explain.

25. $x = 2y - 3$
    $1.5x - 3y = 0$

    No
    Solution

    Inconsistent

26. $-x + y = 8$
    $x + 8 = y$

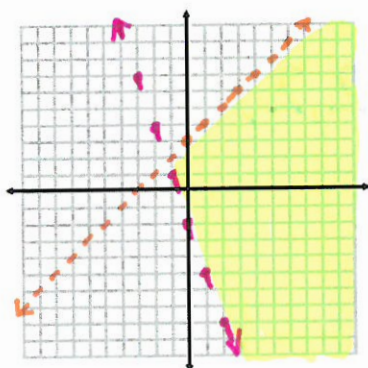   Infinitely
    Many
    Solutions

    Consistent Dependent

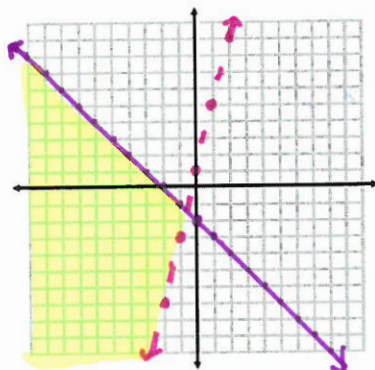27. $4x = 2y + 6$
    $4x + 2y = 10$

    One
    Solution

    Consistent Independent

Graph the system of linear inequalities.

28. • $y < x + 3$
    • $y > -3x - 2$

29. • $y \le -x - 2$
    • $y > 4x + 1$

30. • $y \ge 0$
    • $x \le 2$
    • $y < x + 4$