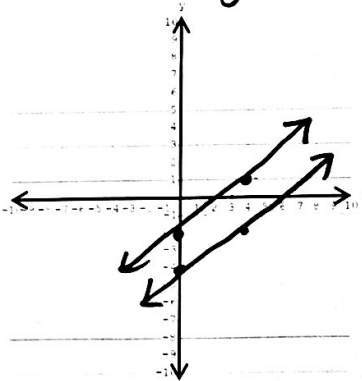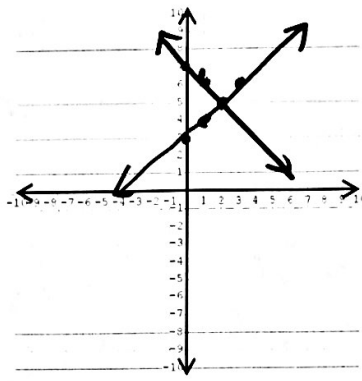Name _____

Graph each system of equations. Then determine whether the system has no solution, infinitely many solutions or one solution. If the system has one solution, name it. **Write the answer on the answer line below the graph.**

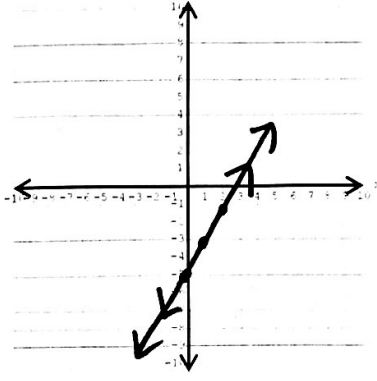1) $3x - 4y = 8$ $y = \frac{3}{4}X - 2$ 2) $-x + y = 3$ $y = X + 3$ 3) $2x - y = 5$ $y = 2X - 5$

$3x - 4y = -16$ $y = \frac{3}{4}X - 4$ $2x + 2y = 14$ $y = -X + 7$ $4x - 2y = 10$ $y = 2X - 5$

1) _____ $\varnothing$ _____   2) _____ $(2, 5)$ _____   3) _____ $\mathbb{R}$ _____

4) Solve the system of equations by SUBSTITUTION.

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

5) Solve the system of equations by ELIMINATION.

$2x - 15y = -10$
$-4x + 5y = -30$

4) _____ $\left(1, \frac{1}{2}\right)$

5) _____ $(10, 2)$

Solve each system of equations by the method of your choice.

6) $x + y = 3$
    $x + 2y = 4$

7) $4x - 3y = -13$
    $5x + 2y = 1$

6) _____ $(2, 1)$

7) _____ $(-1, 3)$

Solve each of the following word problems by first writing a system of equations.

8) Charlie is three years younger than twice Alan's age. Together they are 39 years old. How old is each person?

Equation 1: _____ $a + c = 39$

Equation 2: _____ $c = 2a - 3$

Charlie's age _25_

Alan's age _14_

9) The sum of two numbers is 41 and their difference is 5. What are the numbers?

Equation 1 _____ $x + y = 41$

Equation 2 _____ $x - y = 5$

_18_

_23_