Solving Systems of Equations by Graphing

Name Key Class Period _____

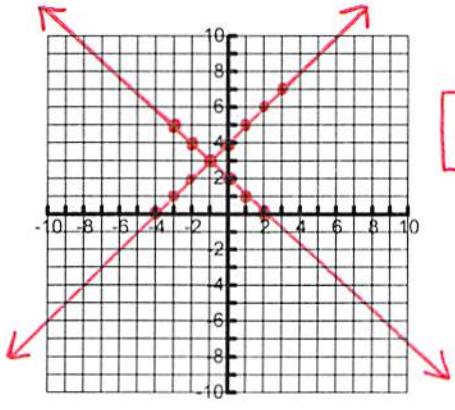
Types of solutions:

- If the lines have the same y-intercept b, and the same slope m, then the solution is infinitely many solutions.
- If the lines have the same slope m, but different y-intercepts b, the solution is no solution.
- If the lines have different slopes m, the solution is the intersection point.

Steps

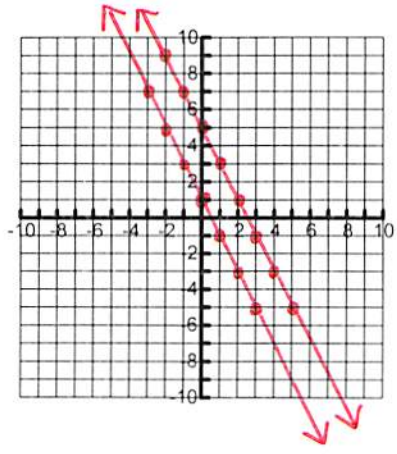
1. Make sure each equation is in slope-intercept form: $y = mx + b$.
2. Graph each equation on the same graph coordinate plane.
3. The point where the lines intersect is the solution.
   If they don't intersect then there's no solution.
4. Check your solution algebraically!

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



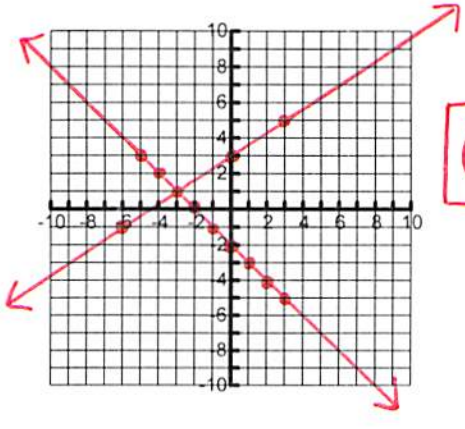
(-1, 3)

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



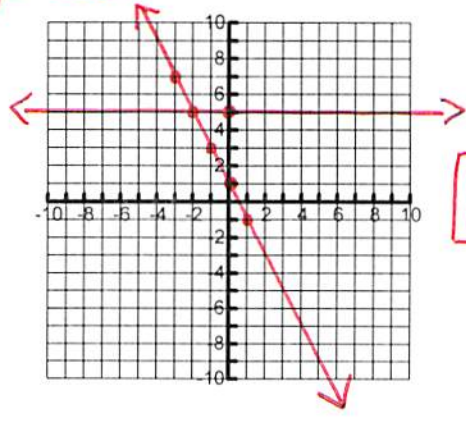
No Solution

3. $y = -x - 2$
   $y = \frac{2}{3}x + 3$



(-3, 1)

4. $y = 5$
   $2x + y = 1$
   $y = -2x + 1$

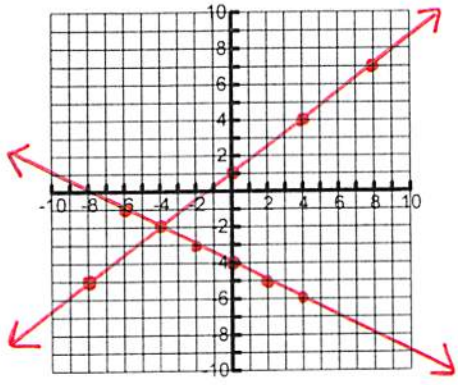


(-2, 5)

5. $y = \frac{3}{4}x + 1$

$y = -\frac{1}{2}x - 4$

(-4, -2)



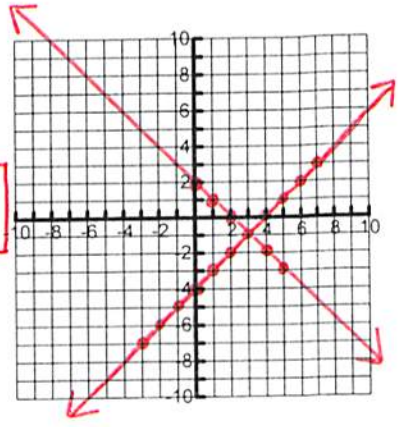
8. $-x + y = -4$

$x + y = 2$

$y = x - 4$

$y = -x + 2$

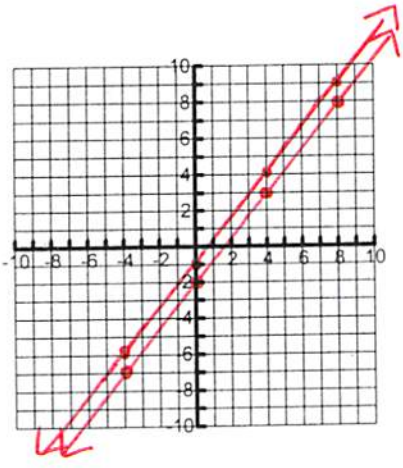
(3, -1)



6. $y = \frac{5}{4}x - 2$

$y = \frac{5}{4}x - 1$

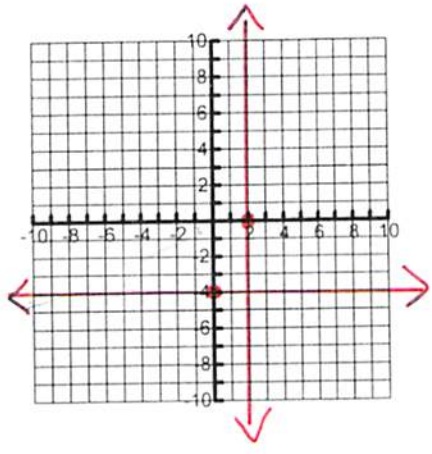
NO solution



9. $y = -4$

$x = 2$

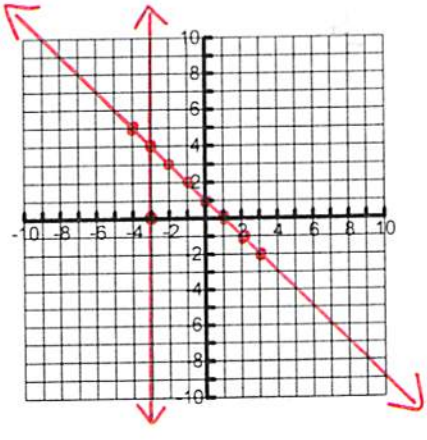
(2, -4)



7. $y = -x + 1$

$x = -3$

(-3, 4)



10. $2y + 3x = -6$

$2y + x = 2$

(-4, 3)

$2y = -3x - 6$

$y = -\frac{3}{2}x - 3$

$2y = -x + 2$

$y = -\frac{1}{2}x + 1$