

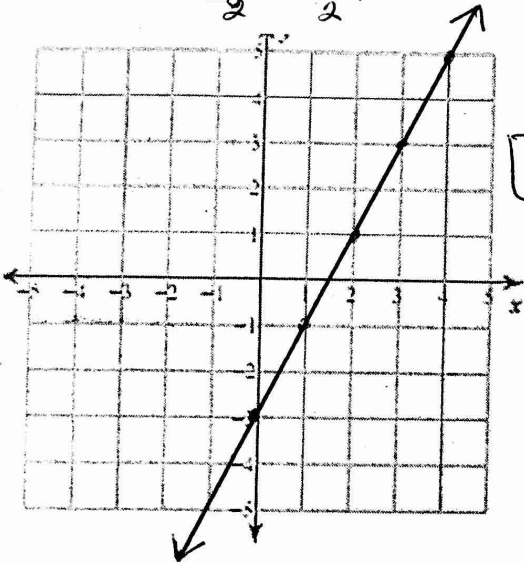
Solving Systems of Equations by Graphing

Name: \_\_\_\_\_

1.  $y = 2x - 3$

$$\begin{array}{r} -4x + 2y = -6 \\ +4x \quad +4x \\ \hline 2y = 4x - 6 \\ \frac{2y}{2} = \frac{4x - 6}{2} \end{array}$$

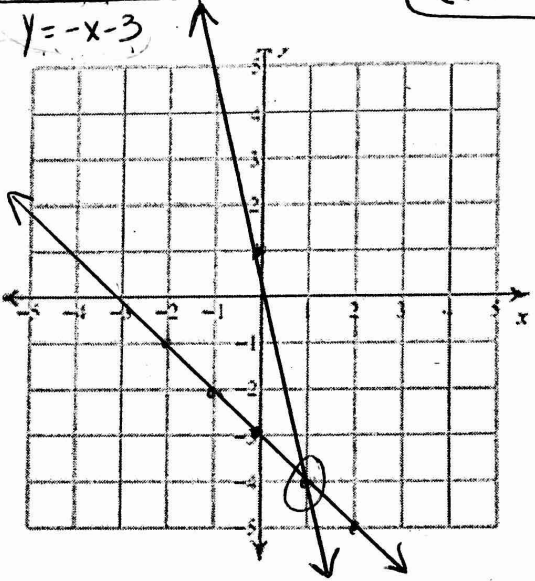
$y = 2x - 3$



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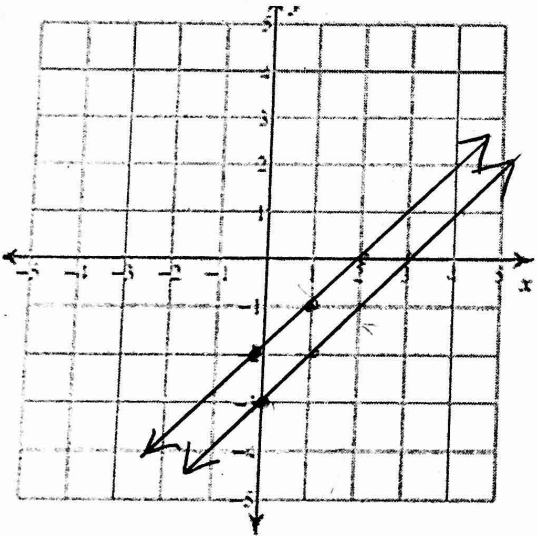
2.  $y = -5x + 1$

$$\begin{array}{r} x + y = -3 \\ -x \quad -x \\ \hline y = -x - 3 \end{array}$$



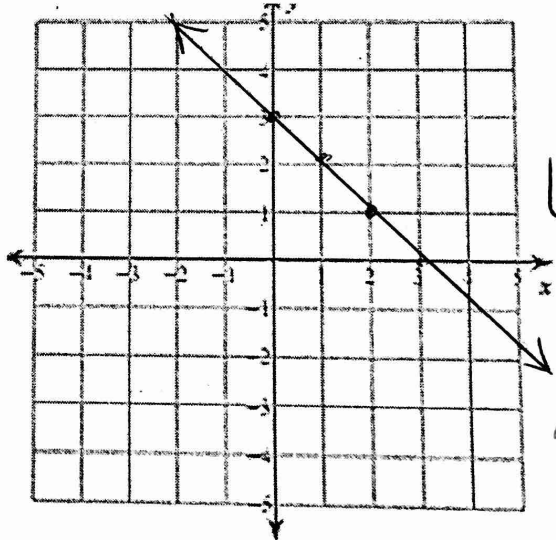
$(1, -4)$

3.  $x - y = 3 \rightarrow -y = -x + 3 \rightarrow y = x - 3$   
 $x - y = 2 \rightarrow -y = -x + 2 \rightarrow y = x - 2$



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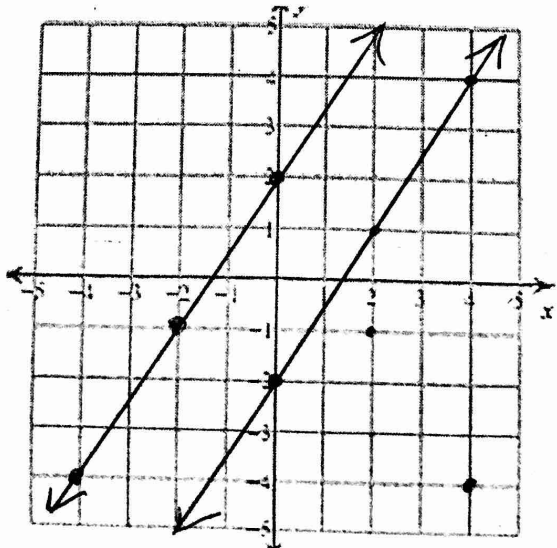
4.  $x + y = 3 \rightarrow y = -x + 3$   
 $2x + 2y = 6 \rightarrow 2y = -2x + 6 \rightarrow y = -x + 3$



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5.  $3x - 2y = 4$   
 $-6x + 4y = 8$

$$\begin{array}{l} -2y = -3x + 4 \\ y = \frac{3}{2}x - 2 \\ 4y = 6x + 8 \\ y = \frac{3}{4}x + 2 \\ y = \frac{3}{2}x + 2 \end{array}$$



$\emptyset$

For Exercise 6, complete the table below. Use the space below the table to write equations in slope - intercept form, if needed. DO NOT GRAPH!

| System of Equations                               | Slopes                                   | y - intercepts               | Graph<br>(intersecting lines, parallel lines, OR same line) | Number of Solutions<br>(One, No, OR Infinite Solutions) |
|---|--|------------------------------|---|---|
| $y = 2x + 2$<br>$y = 2x - 1$                      | $m = 2$<br>$m = 2$                       | $b = 2$<br>$b = -1$          | parallel  | No  |
| $y = -x + 3$<br>$y = -1x + 3$                     | $m = -1$<br>$m = -1$                     | $b = 3$<br>$b = 3$           | Same  | Infinite  |
| $y = 5x + 1$<br>$y = 2x - 4$                      | $m = 5$<br>$m = 2$                       | $b = 1$<br>$b = -4$          | intersecting  | one   |
| $2y + 4x = 8$<br>$x + y = 4$<br>$y = -x + 4$      | $m = -2$<br>$m = -1$                     | $b = 4$<br>$b = 4$           | intersecting  | one   |
| $y = -\frac{3}{4}x + 8$<br>$y = \frac{2}{3}x - 7$ | $m = -\frac{3}{4}$<br>$m = \frac{2}{3}$  | $b = 8$<br>$b = -7$          | intersecting  | one   |
| $y = -\frac{1}{2}x + 1$<br>$2y = -x + 6$          | $m = -\frac{1}{2}$<br>$m = -\frac{1}{2}$ | $b = 1$<br>$b = 6$           | parallel  | No  |
| $y = 2$<br>$x = -3$                               | $m = 0$<br>$m = \text{undefined}$        | $b = 2$<br>$b = \text{None}$ | intersecting  | one   |
| $y = 1$<br>$y = -4$                               | $m = 0$<br>$m = 0$                       | $b = 1$<br>$b = -4$          | parallel  | No  |
| $y = 4$<br>$-4 + y = 0$<br>$y = 4$                | $m = 0$<br>$m = 0$                       | $b = 4$<br>$b = 4$           | same  | infinite  |

$y = \frac{1}{2}x + 3$

$$\begin{array}{r}
 2y + 4x = 8 \\
 -4x - 4y \\
 \hline
 2y = -4x + 8 \\
 \frac{2y}{2} = \frac{-4x + 8}{2} \\
 y = -2x + 4
 \end{array}$$