Graphing Review

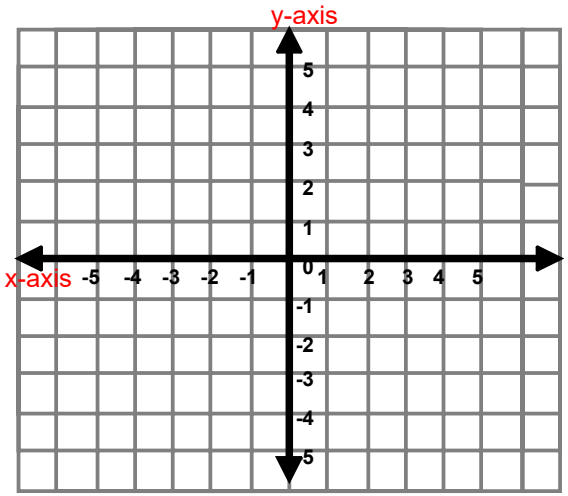
Slope-Intercept Form of a Linear Equation

$$y = mx + b$$

Graphing Linear Equations

Graph the following equation using slope-intercept form.

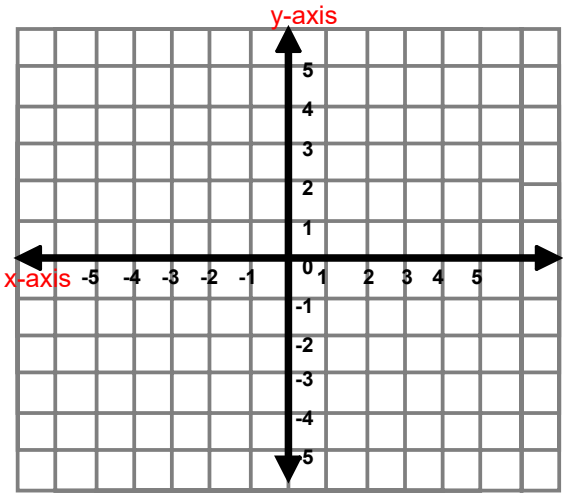
1) $y = 2x - 3$



Graphing Linear Equations

Graph the following equation using slope-intercept form.

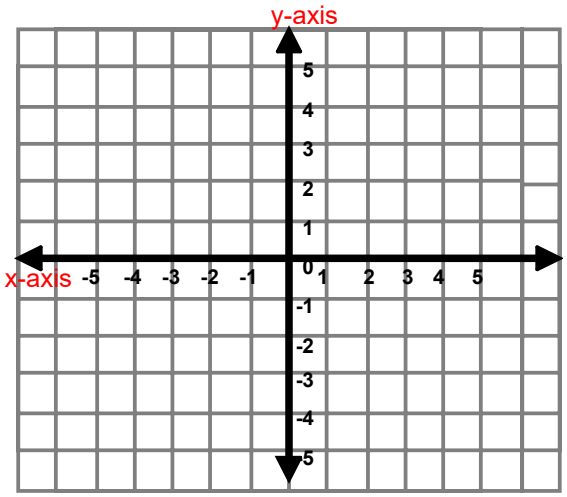
2) $y = -3x + 1$



Graphing Linear Equations

Graph the following equation using slope-intercept form.

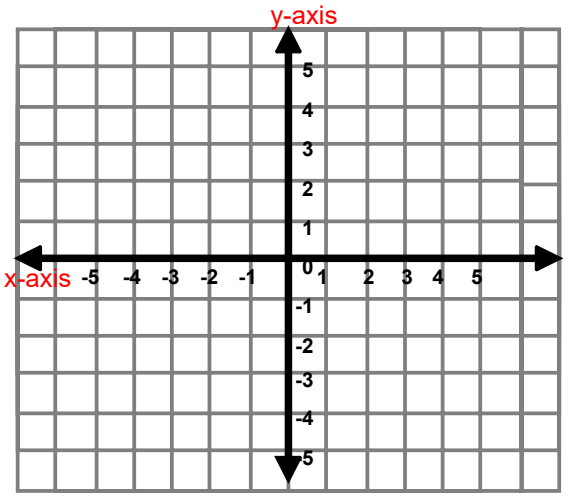
3) $y - 2 = \frac{3}{2}x$



Graphing Linear Equations

Graph the following equation using slope-intercept form.

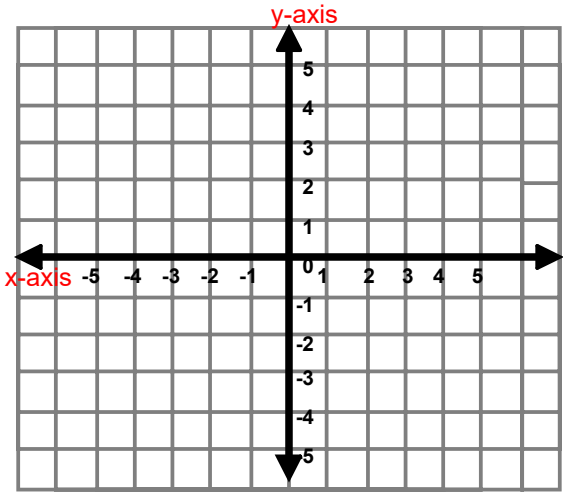
4) $\frac{2}{3}x + y = 1$



Graphing Linear Equations

Graph the following equation using slope-intercept form.

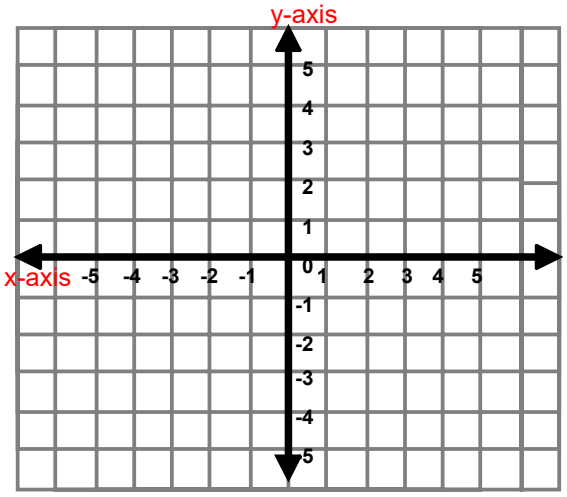
5) $-2x + 3y = -6$



Graphing Linear Equations

Graph the following equation using slope-intercept form.

6) $3x - 5y = 15$



Solutios of Linear Equations

Prove and indicate that the given point is a solution of the linear equation.

7) $y = 4x - 6$; $(5,14)$

8) $5x - 3y = 15$; $(4,2)$

REVIEW

SOLVING EQUATIONS WITH VARIABLES ON BOTH SIDES

Solving

1) Cancel the "smallest variable term"
2) Collect constant terms on the other side

Examples

a) $13+5x=2x-8$

b) $2m-6=12-4m$

c) $34-3x=14x$

Practice

1) $7-8x=4x-17$

2) $9-3k=17-2k$

Multi-step with variables on each side of the equation

1) Simplify each side of the equation
2) Collect variable terms on one side
3) Collect constant terms on the other side

Examples

a) $3-4y=5(y-3)$ *b*) $3z-10+4z=5z-7$

No Solution vs Infinitely Many

An equation has **NO SOLUTION**:
if once you solve, one side can NOT be equal to the other side...

An equation is has **INFINITELY MANY SOLUTIONS**:
if once you solve, one side is ALWAYS equal to the other side...

Examples

a) $13+x=2x-8$

b) $2m-6=-6+2m$

c) $3x=3(x+4)$

5.1

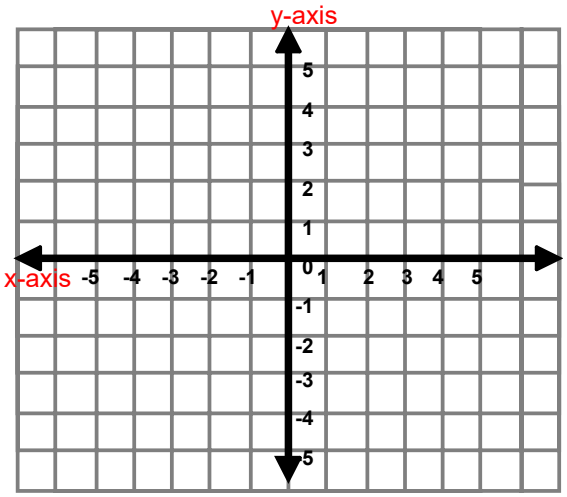
SOLVING SYSTEMS OF LINEAR EQUATIONS BY GRAPHING

Graphing Linear Equations

Graph the following equations using slope-intercept form.

1) $y = 3x - 4$

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



Systems of equations

A system of equations is when you have two or more equations with the same variables.

$$3x + 2y = 14$$

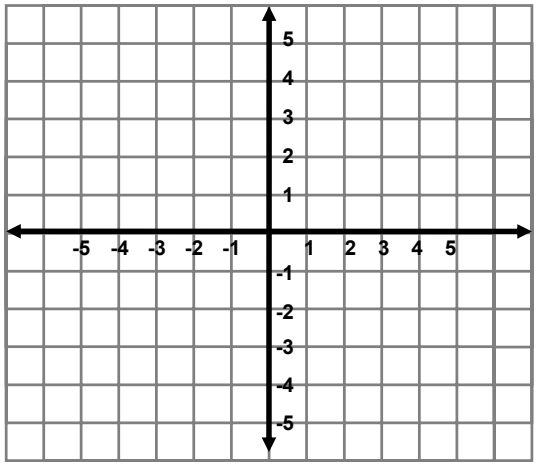
$$x + y = 1$$

Solving systems of equations means: _____

_____.

In this case, the solution that will fit for this is (,)

To find the solution of systems of equations by graphing, graph both equations. Basically, the intersection is the solution.

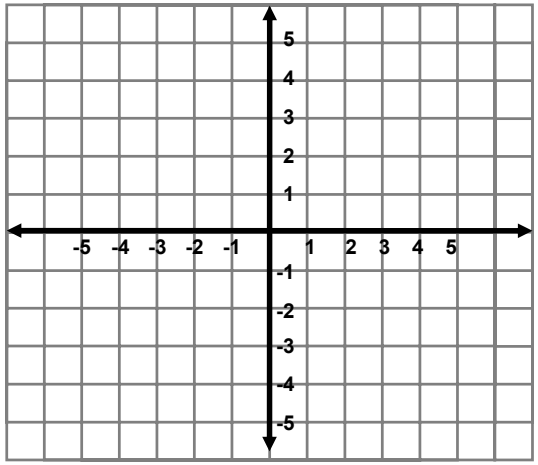


$$2x - y = 5$$

$$x + y = 1$$

Clue: Change these to slope-intercept form and then graph.

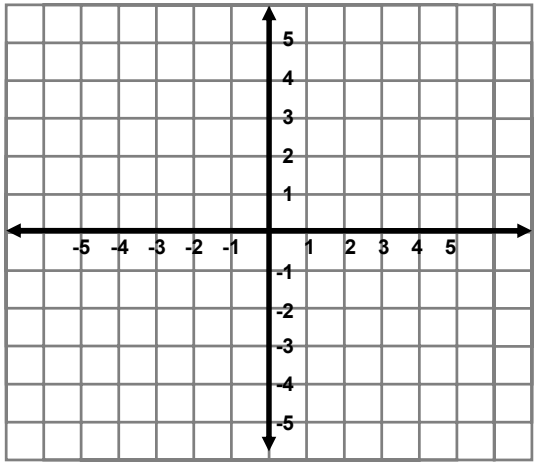
Use the graph to solve the system. Then check your solution algebraically.



$$y = -\frac{2}{3}x + 4$$

$$y = \frac{5}{3}x - 3$$

3) Find the solution by graphing:



$$2x + y = 2$$

$$-x + y = -4$$

4) Tell whether the ordered pair is a solution of the linear system.

a) $(-1, 2)$

$y = -x + 1$

$y = 2x + 4$

b) $(-1, 5)$

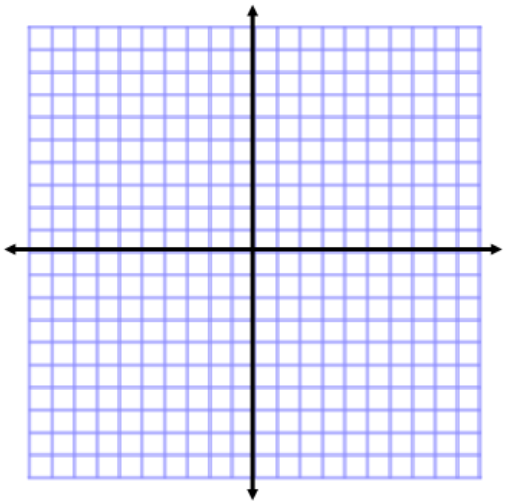
$x + y = 4$

$x - y = 6$

5) Solve the linear system by graphing. Check your solution.

$-x + y = 7$

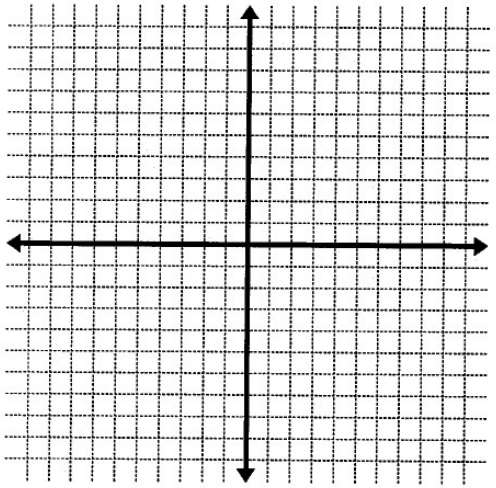
$x + 4y = 8$



Practice

6) $2x + y = 3$

$3y = x - 12$

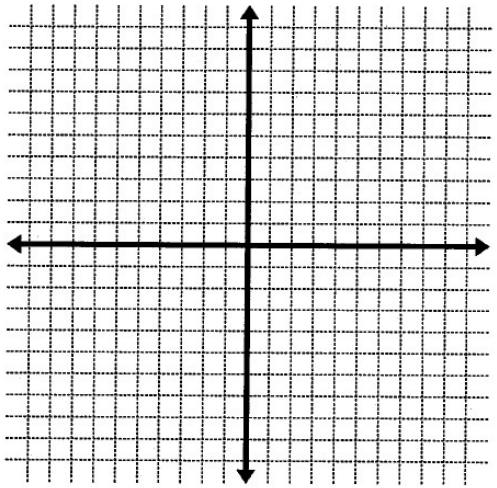


Check:

Practice

7) $4y - 3x = 12$

$y + 2x = -8$

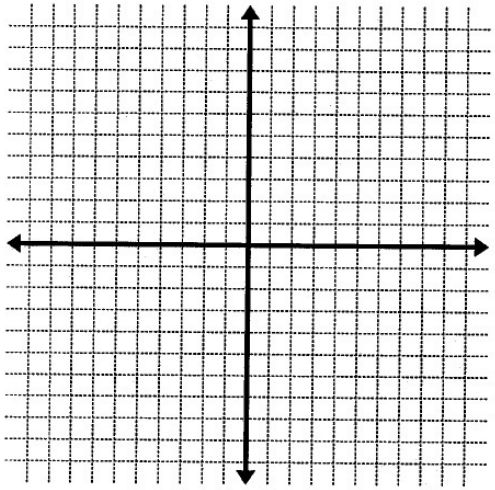


Check:

Practice

8) $y = -x + 4$

$y = \frac{-3}{5}x + 2$

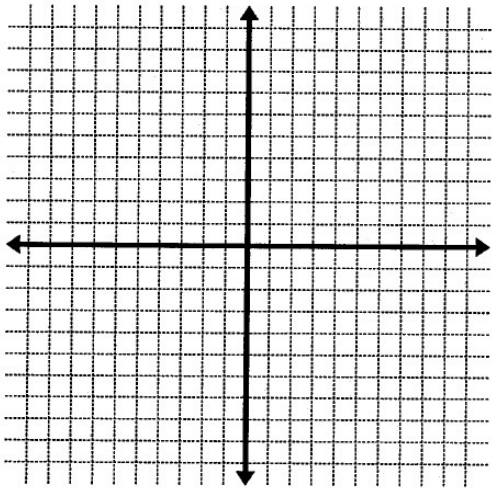


Check:

Practice

9) $y + 3x = -2$

$2y - 3x = 14$



Check: