

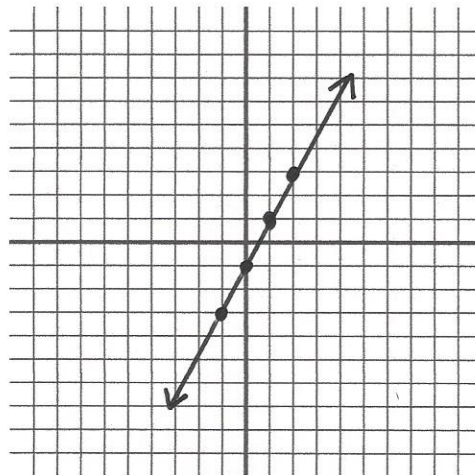
Graphing Linear Equations with a Table

- Select (or use pre-selected) values for x
- Substitute those x values in the equation and solve for y
- Graph the x and y values as order pairs (points)
- Connect the points to make a line

Example 1

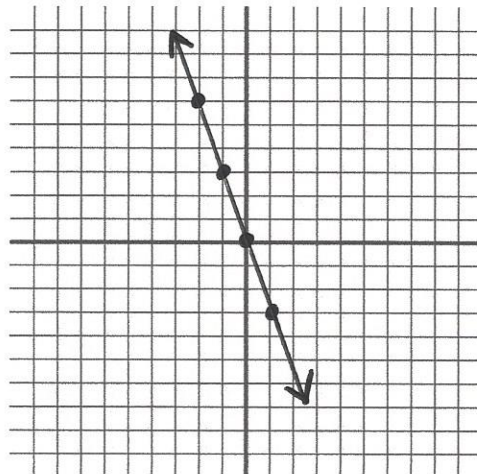
$$y = 2x - 1$$

x	y
-1	-3
0	-1
1	1
2	3

Example 2

$$y = -3x$$

x	y
-2	6
-1	3
0	0
1	-3



- It is easier to substitute and find points when the equation is solved for y.
- Use inverse operations to solve your equation for y.

Example 3

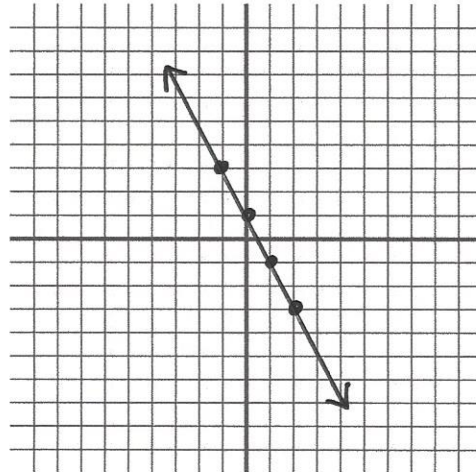
$$\begin{array}{r} 2x + y = 1 \\ -2x \quad -2x \\ \hline y = -2x + 1 \end{array}$$

- Subtract $2x$ to move it over

- don't really subtract $2x$ from 1

- they are not like terms

x	y
-1	3
0	1
1	-1
2	-3



Example 4

$$\begin{array}{r} x - 3y = 6 \\ -x \quad -x \\ \hline \end{array}$$

- Subtract to move x across =

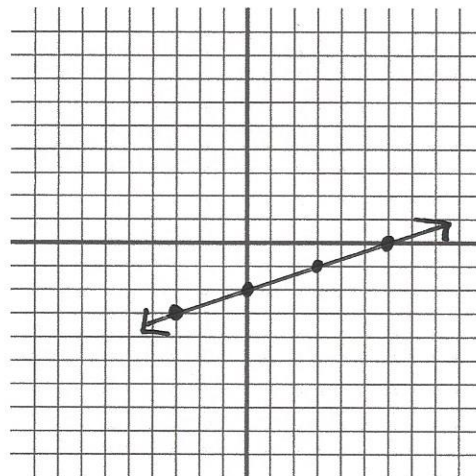
$$\frac{-3y}{-3} = \frac{-x}{-3} + \frac{6}{-3}$$

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

- divide by -3 on every term

x	y
-3	-3
0	-2
3	-1
6	0

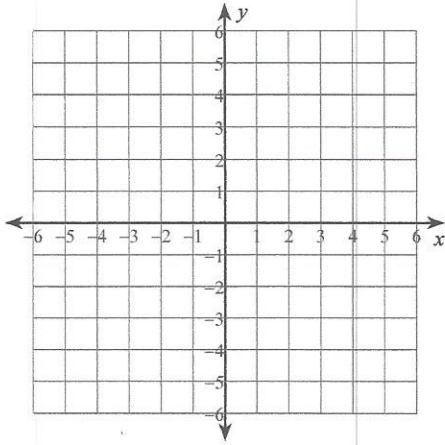
- Choose numbers for x that are divisible by 3 to make it easier to solve for y



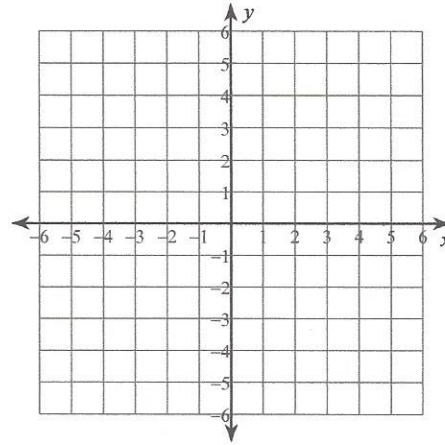
Packet Day 11

Make a table to graph each line.

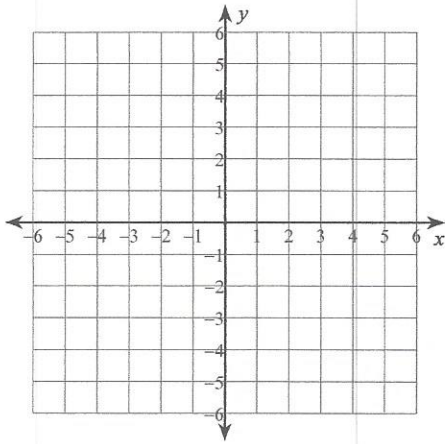
1) $y = -x$



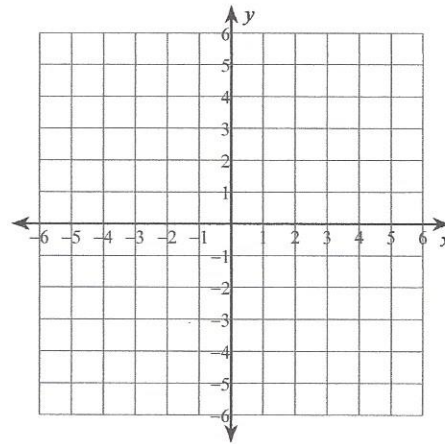
2) $y = -2x + 3$



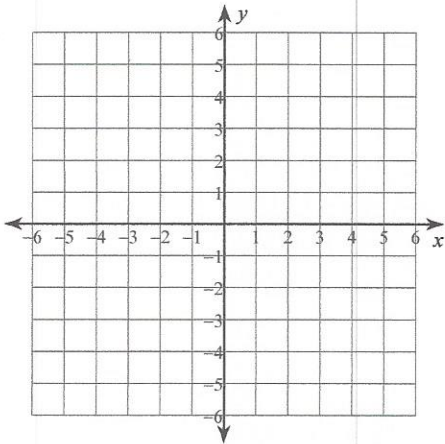
3) $y = x + 3$



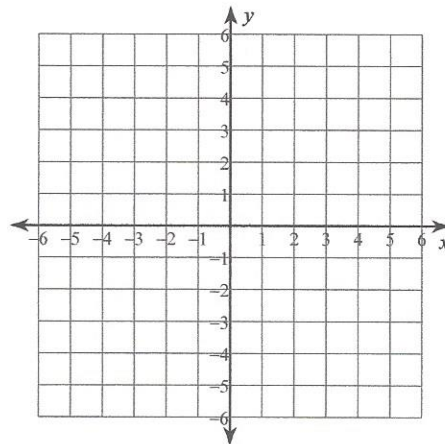
4) $y = -x + 4$



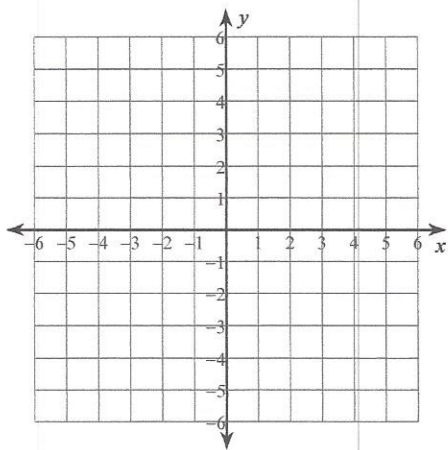
5) $y = x + 4$



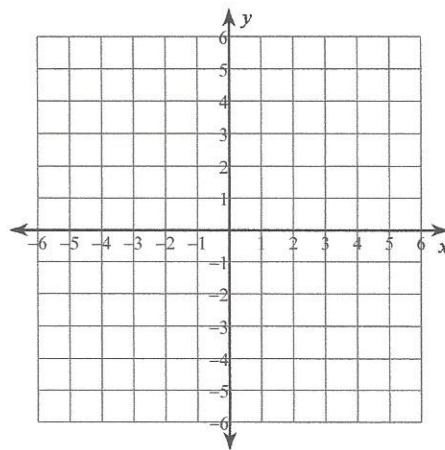
6) $y = x - 4$



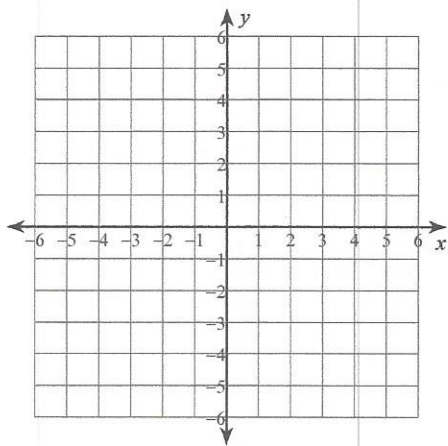
7) $x + y = -1$



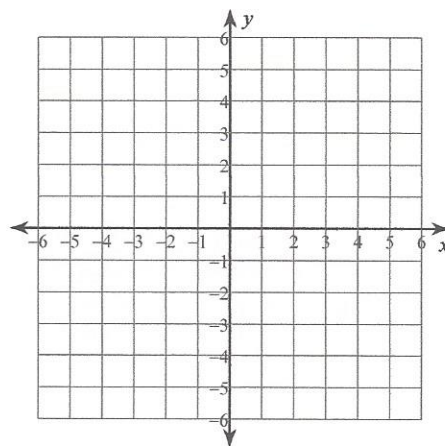
8) $x + y = -3$



9) $2x + y = -3$



10) $3x + y = -1$



Graphing Linear Equations the x and y intercepts

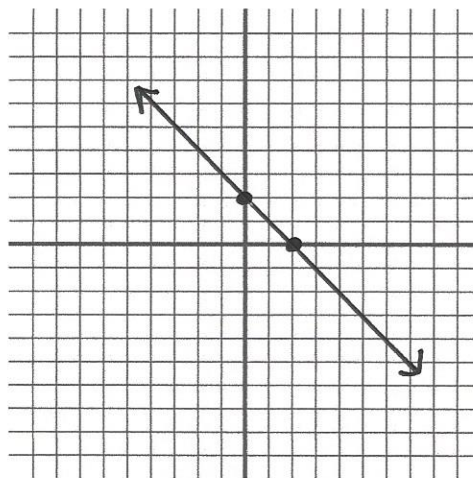
- The x intercept is the point where the line crosses the x axis.
- The y intercept is the point where the line crosses the y axis.
- To find the x intercept, substitute zero for y and solve for x.
- To find the y intercept, substitute zero for x and solve for y.
- The intercepts give you two good points to use to graph the line.

Example 1

$$x + y = 2$$

let $y=0$ $x+0=2$
 $x=2$
x-intercept $(2,0)$

let $x=0$ $0+y=2$
 $y=2$
y-intercept $(0,2)$



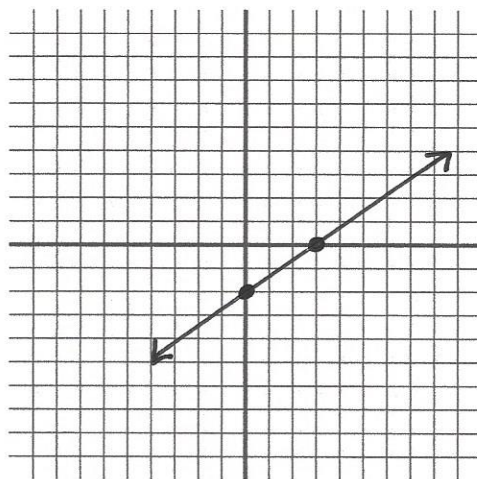
Example 2

$$2x - 3y = 6$$

let $y=0$ $2x - 0 = 6$
 $\frac{2x}{2} = \frac{6}{2}$
 $x = 3$
x-intercept $(3,0)$

let $x=0$ $0 - 3y = 6$
 $\frac{-3y}{-3} = \frac{6}{-3}$
 $y = -2$

$y = -2$ y-intercept $(0, -2)$

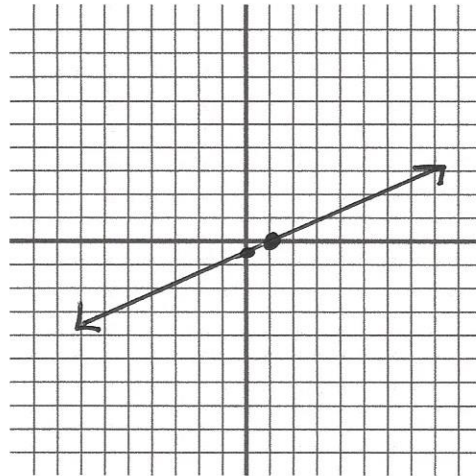


- When you get a fraction, just estimate where to graph it.

Example 3

$$x - 3y = 1$$

x-int	y-int
$x - 0 = 1$ $x = 1$ (1, 0)	$0 - 3y = 1$ $-3y = 1$ $\frac{-3y}{-3} = \frac{1}{-3}$ $y = -\frac{1}{3}$ (0, $-\frac{1}{3}$)

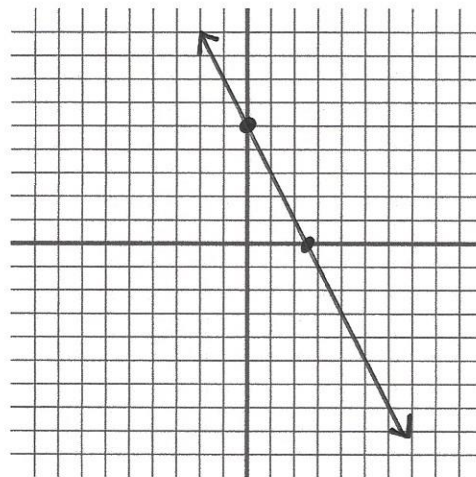


* Can use this table to organize your work.

Example 4

$$2x + y = 5$$

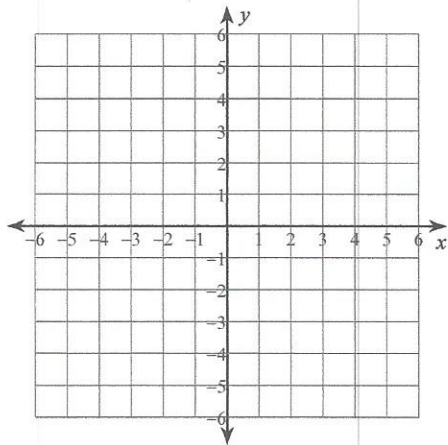
x-int	y-int
$2x + 0 = 5$ $\frac{2x}{2} = \frac{5}{2}$ $x = \frac{5}{2}$ or $x = 2.5$ (2.5, 0)	$0 + y = 5$ $y = 5$ (0, 5)



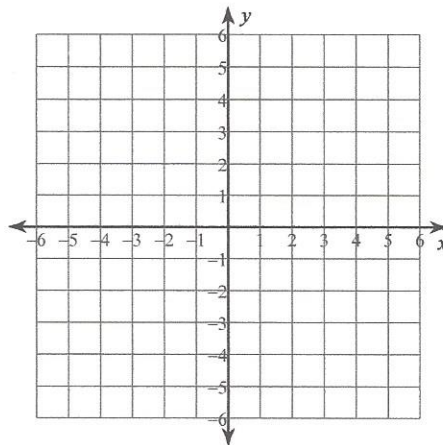
Packet Day 12

Make a table to graph each line.

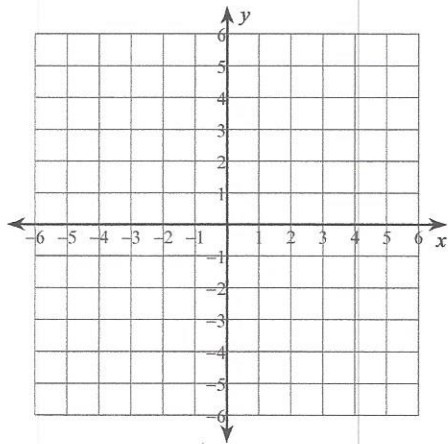
1) $x + y = 5$



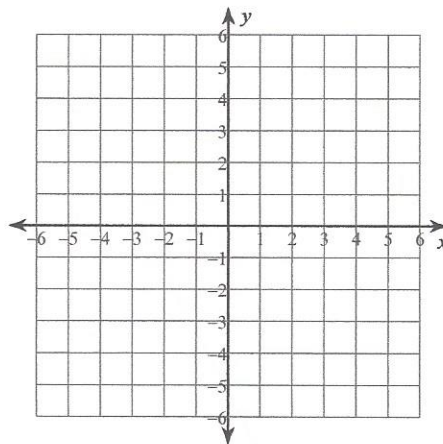
2) $2x - y = -2$



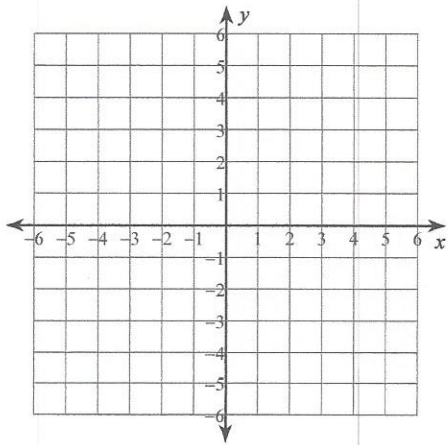
3) $2x + y = -4$



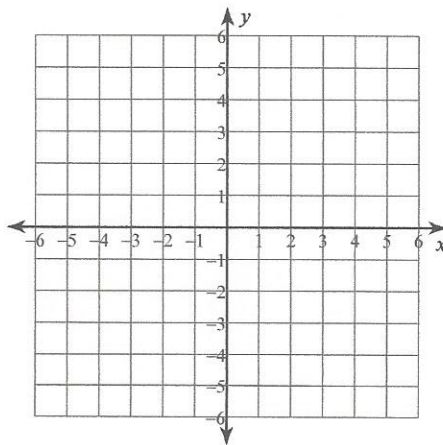
4) $2x - 3y = -12$



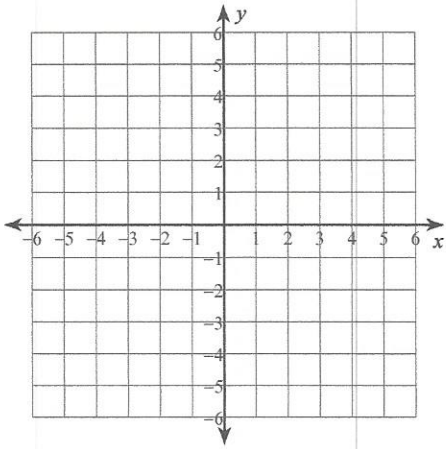
5) $4x - 5y = -20$



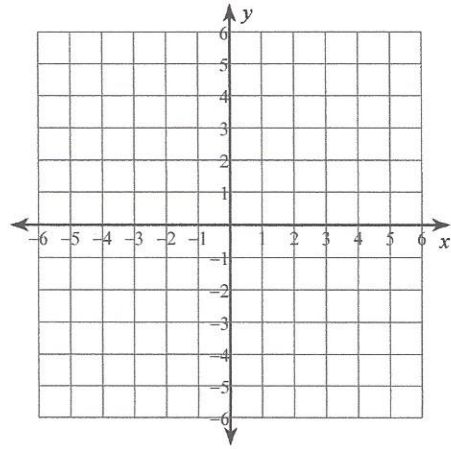
6) $3x - 4y = 12$



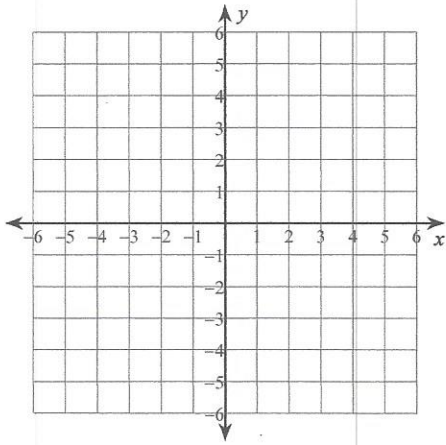
7) $3x + y = -4$



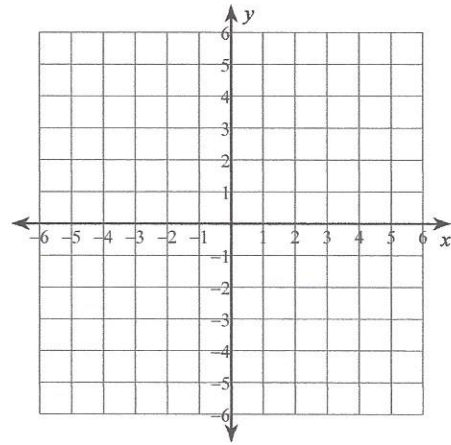
8) $3x + 2y = 4$



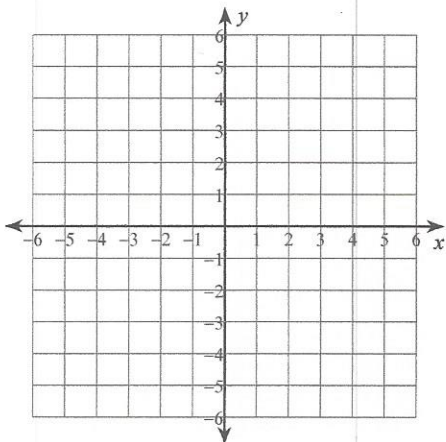
9) $x + 3y = 6$



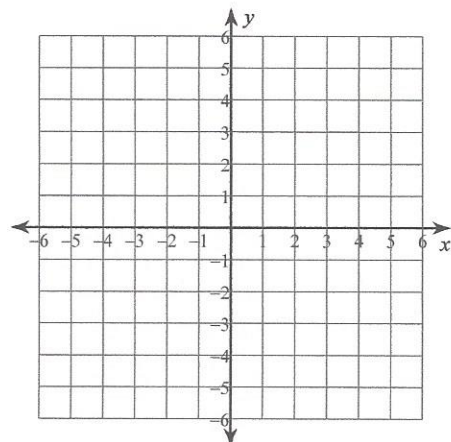
10) $x + 2y = -2$

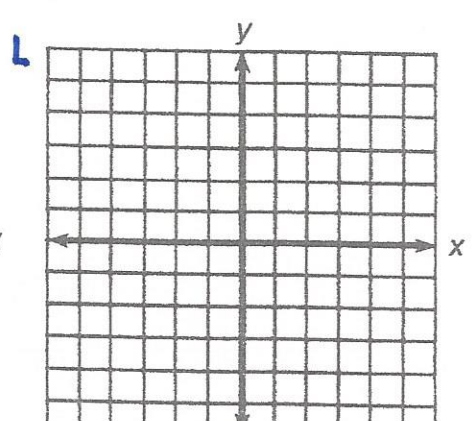
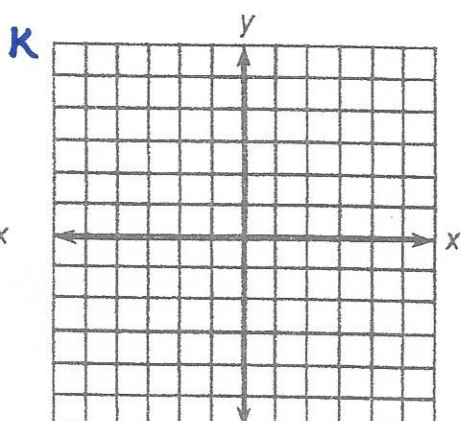
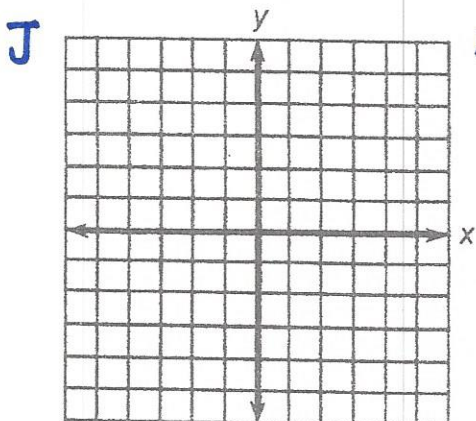
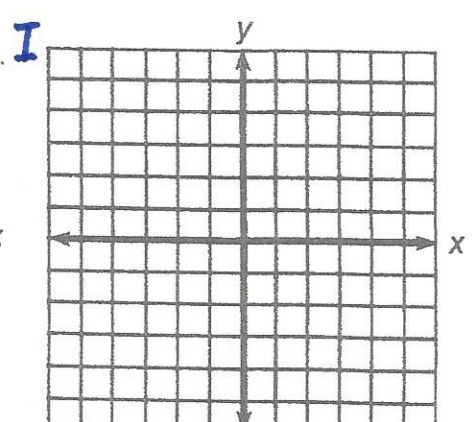
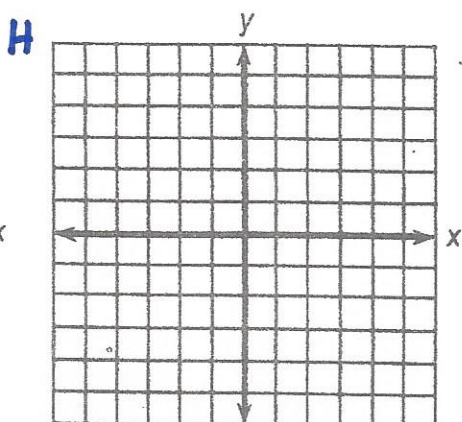
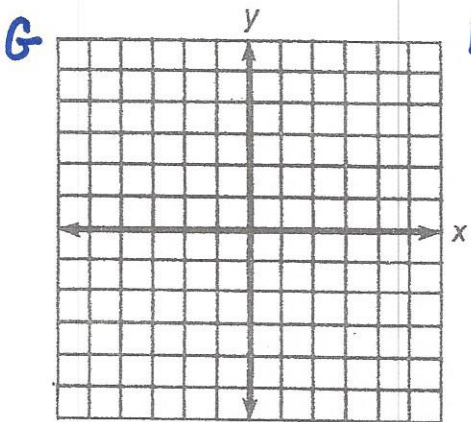
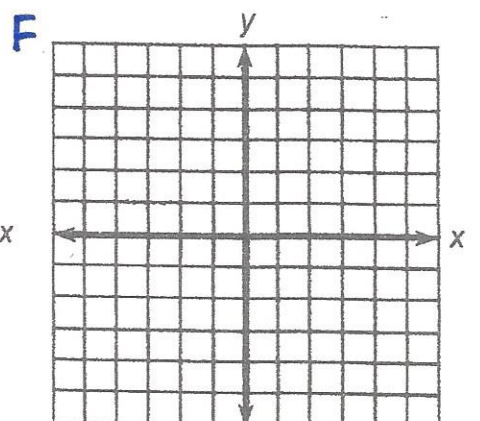
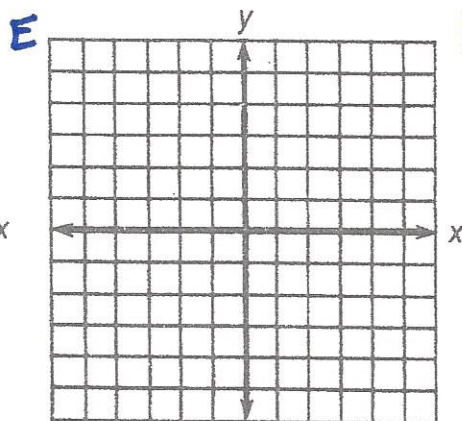
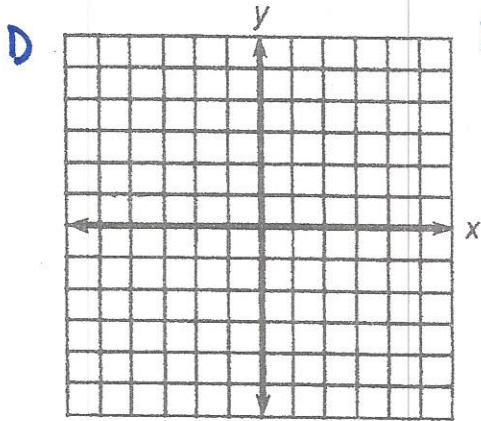
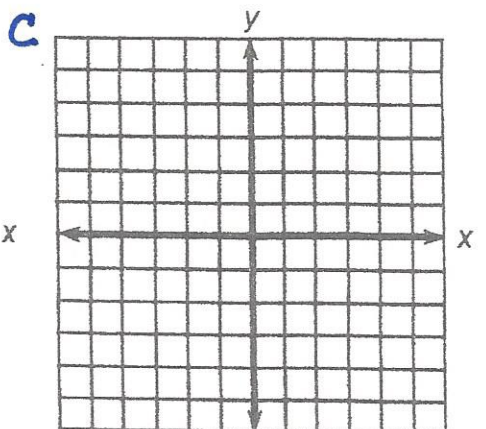
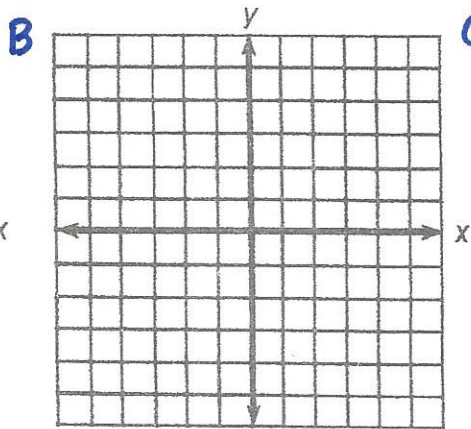
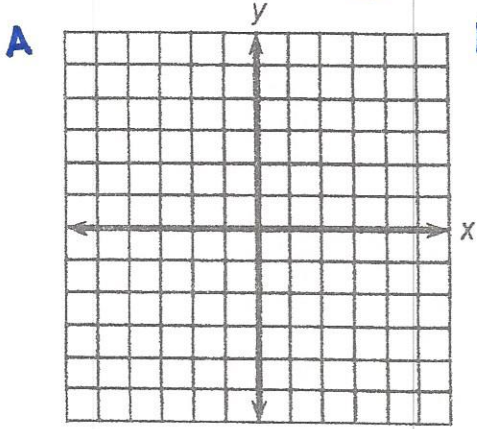


11) $4x + 5y = -10$



12) $x + y = 2$

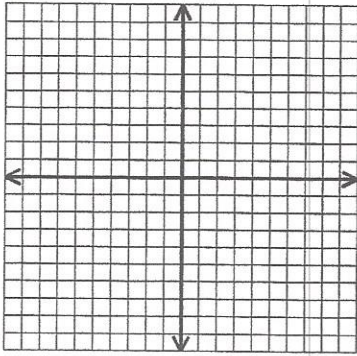




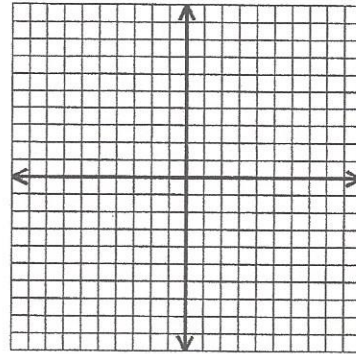
Graphing Using Intercepts Worksheet

Graph each equation using x and y intercepts.

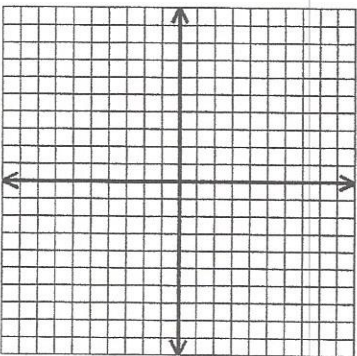
1. $x + y = 5$



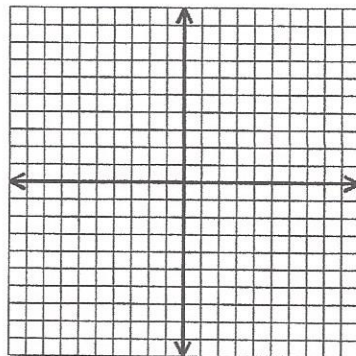
2. $x + 2y = 8$



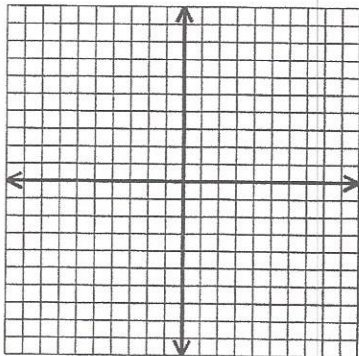
3. $2x - y = 6$



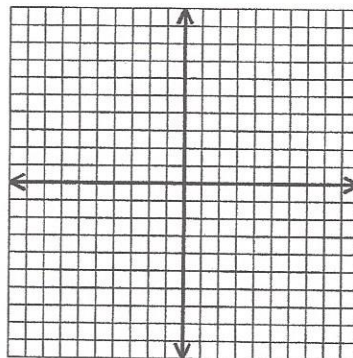
4. $2x + 2y = -4$



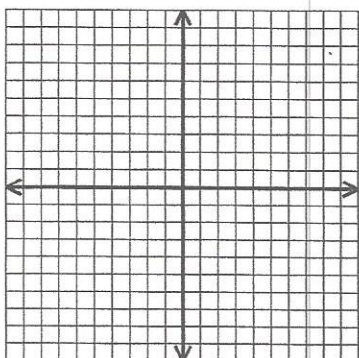
5. $3x + y = 12$



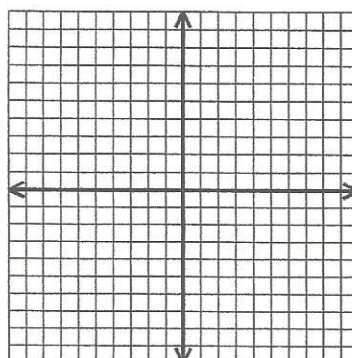
6. $2x + 4y = -4$



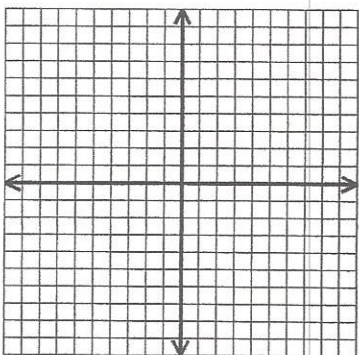
7. $3x - 5y = 15$



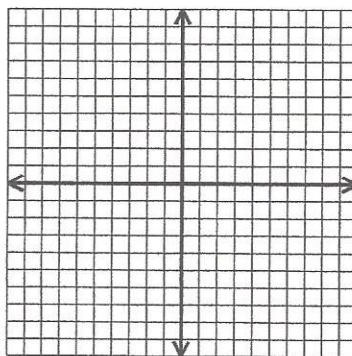
8. $4x - 3y = 12$



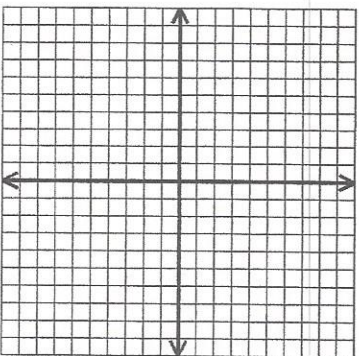
9. $x + 5y = 5$



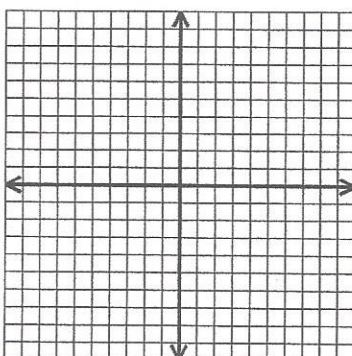
10. $2x + 4y = -8$



11. $2x + 3y = 3$



12. $x - 2y = 1$



Linear Equations Matching Activity

- Match the 12 Linear Equations below with the 12 graphs.
- Write the correct equation in the box beneath its graph.

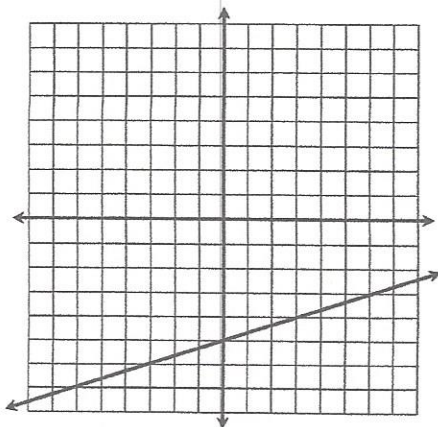
The first one is done for you.

EQUATIONS:

$x = 5$	$4x + 3y = -18$	$x + y = -8$
$x - y = 1$	$x - y = -4$	$5x + 2y = 2$
$3x - 2y = -14$	$x - 3y = 15$	$2x - y = 0$
$2x - 7y = -21$	$4x + y = -3$	$x + 5y = 10$

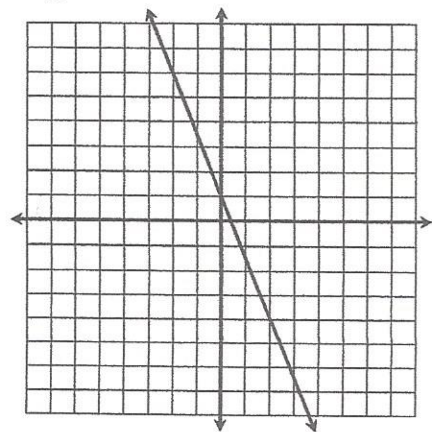
LINEAR EQUATIONS Matching Activity!

1



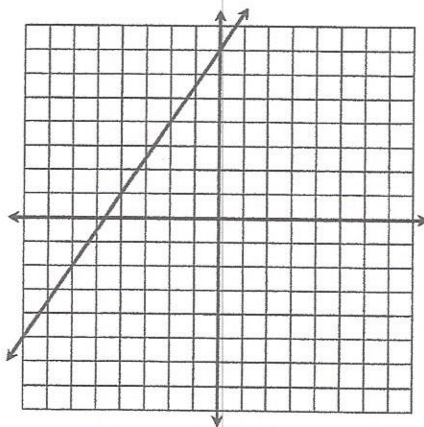
Equation:

2



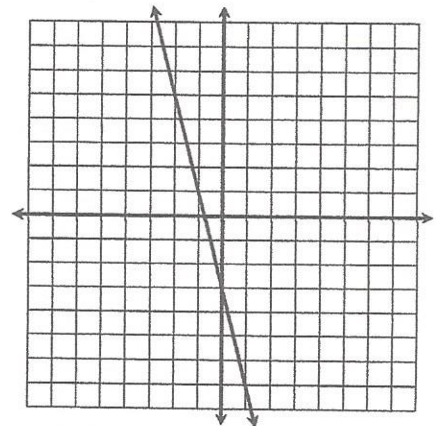
Equation:

3



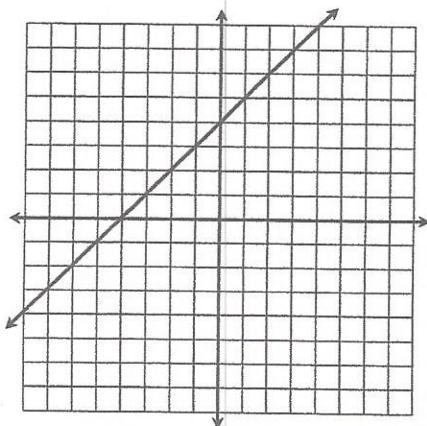
Equation:

4



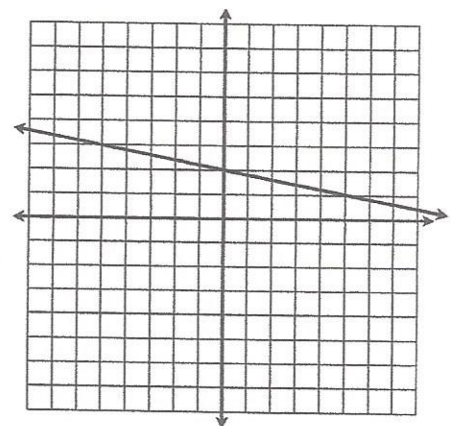
Equation:

5



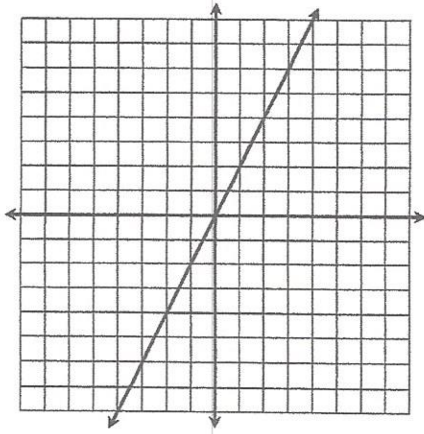
Equation:

6



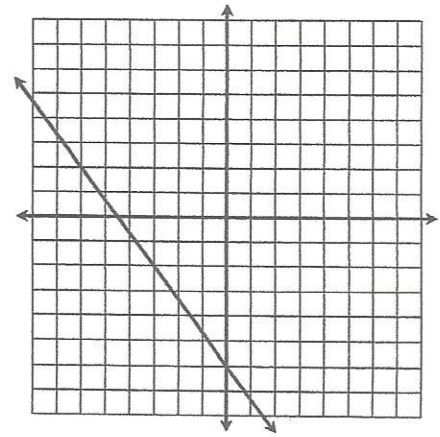
Equation:

7



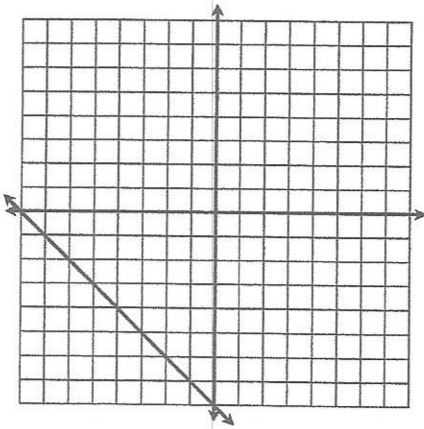
Equation:

8



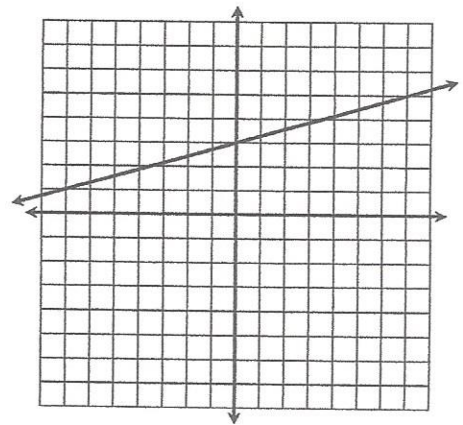
Equation:

9



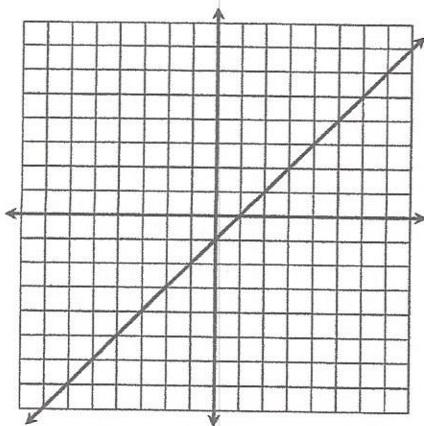
Equation:

10



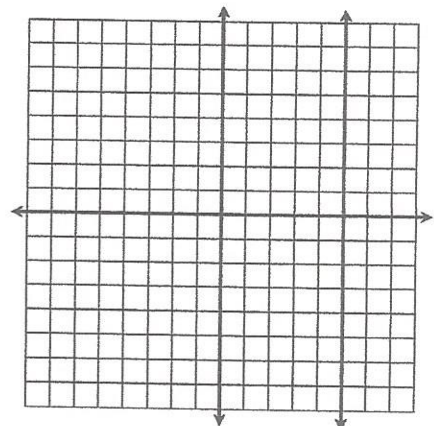
Equation:

11



Equation:

12



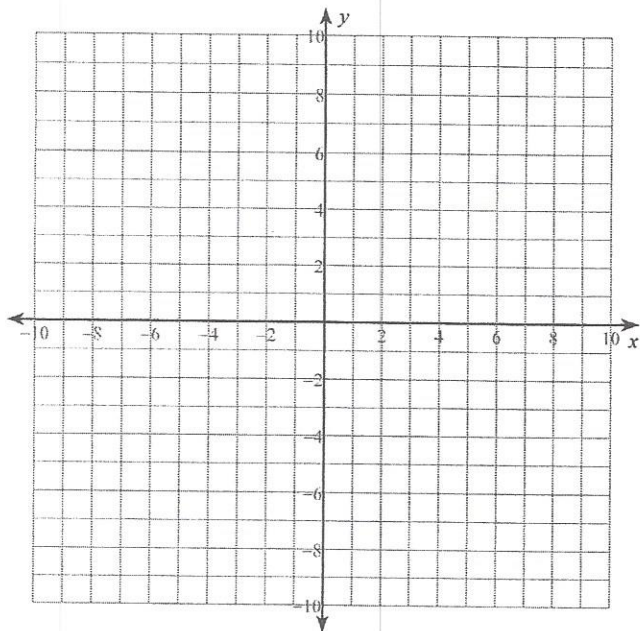
Equation:

Graphing Quiz

Packet Day 16

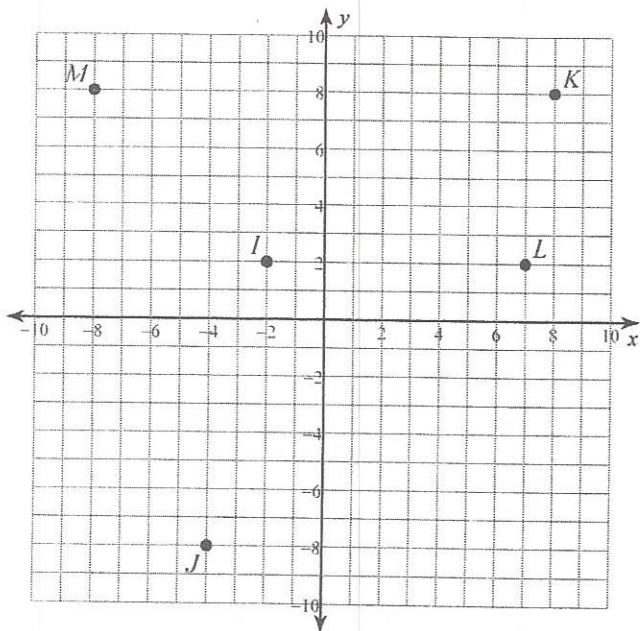
Plot each point.

- 1) $D(-10, -3)$ $E(0, 2)$ $F(9, 9)$
 $G(-7, 6)$ $H(-5, -9)$



State the coordinates and the quadrant of each point.

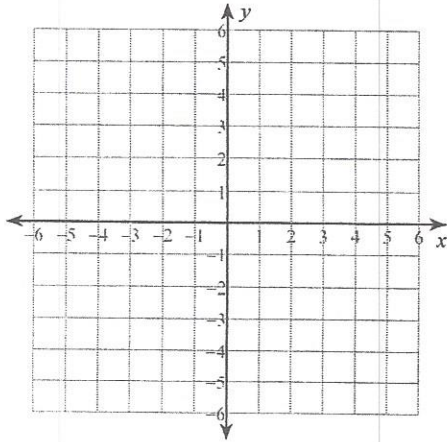
2)



	coordinates	quadrant
I		
J		
K		
L		
M		

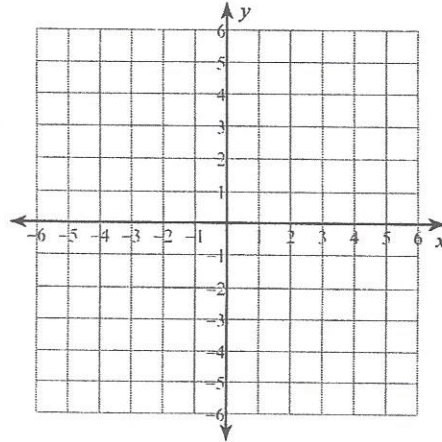
Sketch the graph of each line.

3) $y = -x + 3$



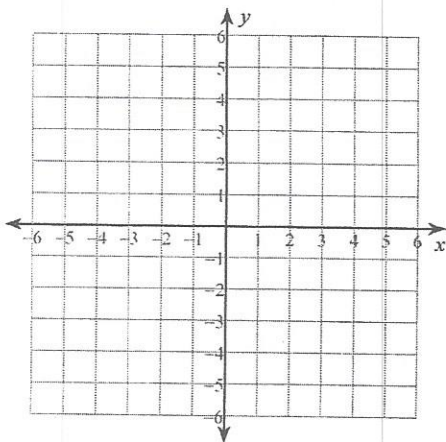
x	y
-1	
0	
1	

4) $y = -3x + 3$



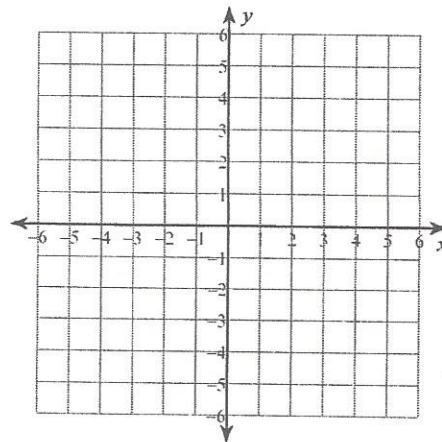
x	y

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



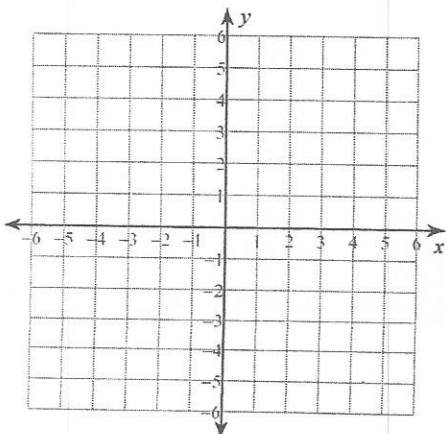
x	y
-3	
0	
3	

6) $y = 2x + 3$



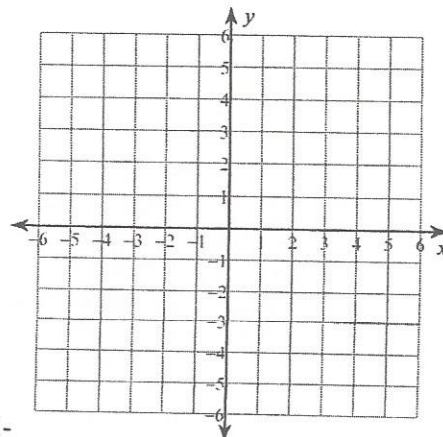
x	y

7) $y = -3x + 2$



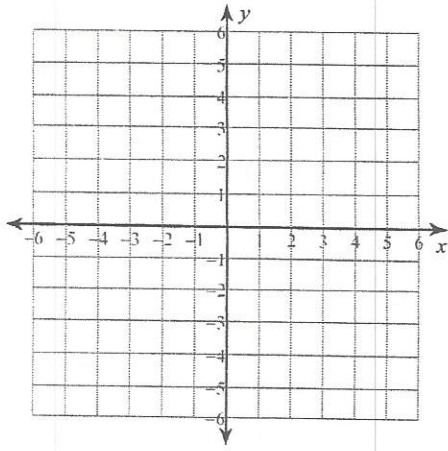
x	y
-1	
0	
1	

8) $y = -x$



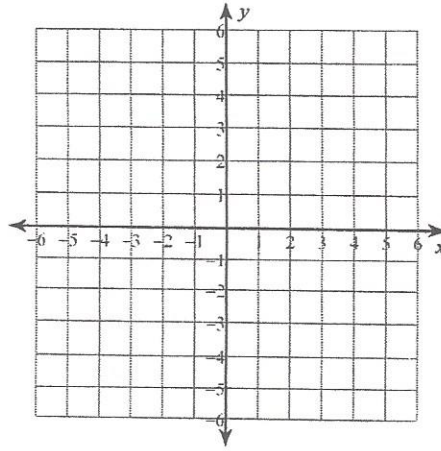
x	y

9) $3x - y = 5$



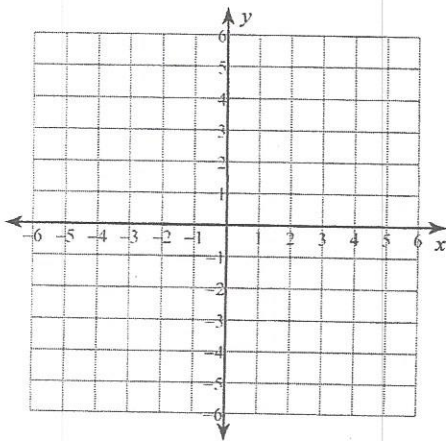
x	y

10) $3x + y = -5$



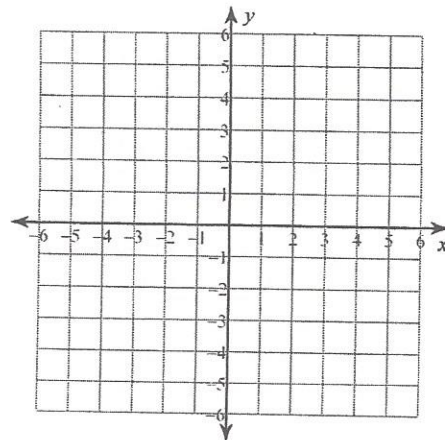
x	y

11) $2x - y = 2$



x	y
-1	
0	
1	

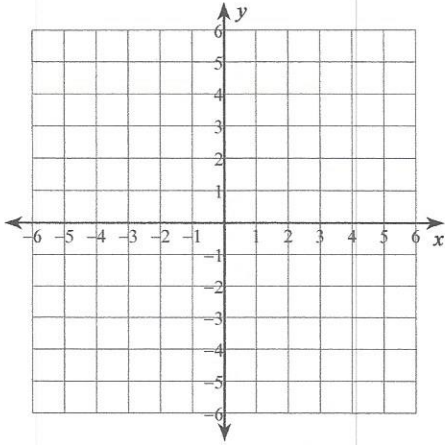
12) $x + 2y = -8$



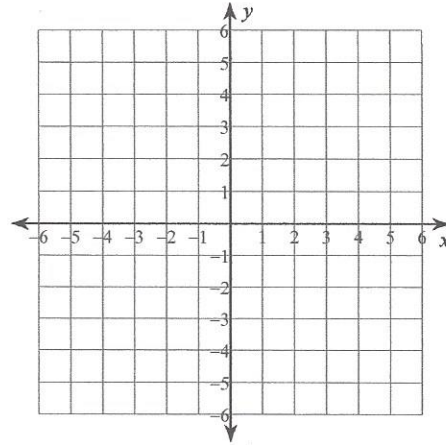
x	y
-2	
0	
2	

Find the x and y intercepts to graph each line.

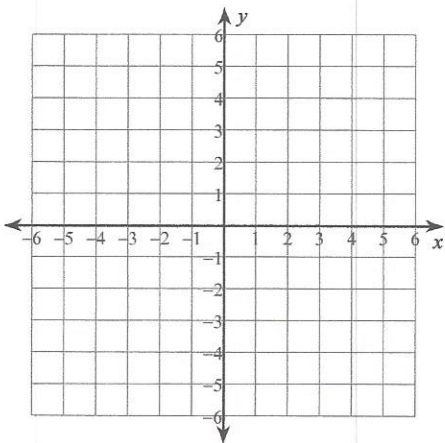
13) $x + y = -5$



14) $2x - 5y = -10$



15) $3x - 2y = 10$



16) $5x + 3y = 15$

