

Date: _____

Graphing Lines

Recall:

The Cartesian Plane is a grid used to graph points.

It is divided into 4 quadrants as shown (use Roman numerals to represent the quadrants).

Note: points that are on the x- or y-axis do not lie in a quadrant

Origin: the point in the middle of the graph. Coordinates: (0,0)

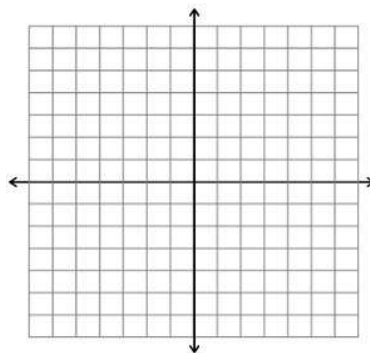
Ordered Pairs: any point on the graph is represented by an ordered pair:
(x , y)

For example: to plot the point (3,5):

Start at the origin

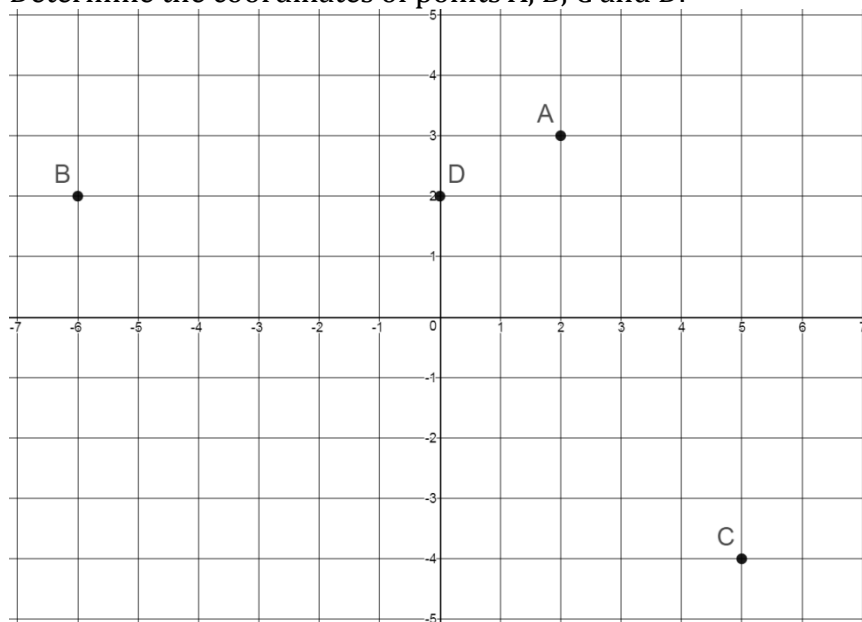
Go 3 units to the right (along the x-axis)

Go 5 units up



Example 1

Determine the coordinates of points A, B, C and D.



A: _____

B: _____

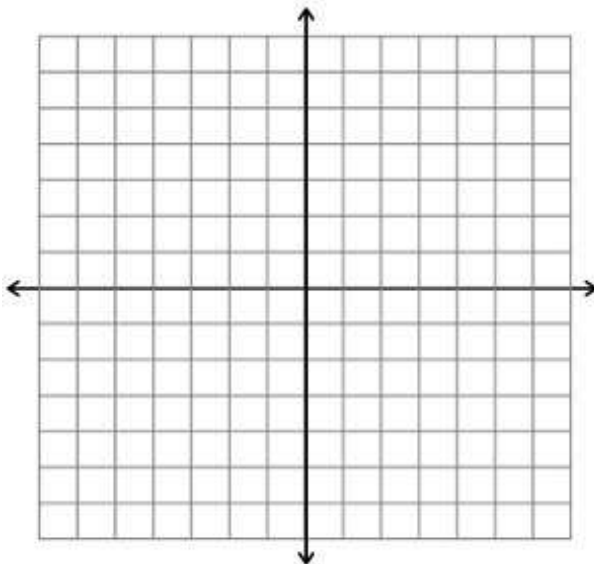
C: _____

D: _____

Example 2

Complete a Cartesian plane for the table of values given below.

x	y
0	-3
1	-2
2	-1
3	0
4	1



Creating a Table of Values

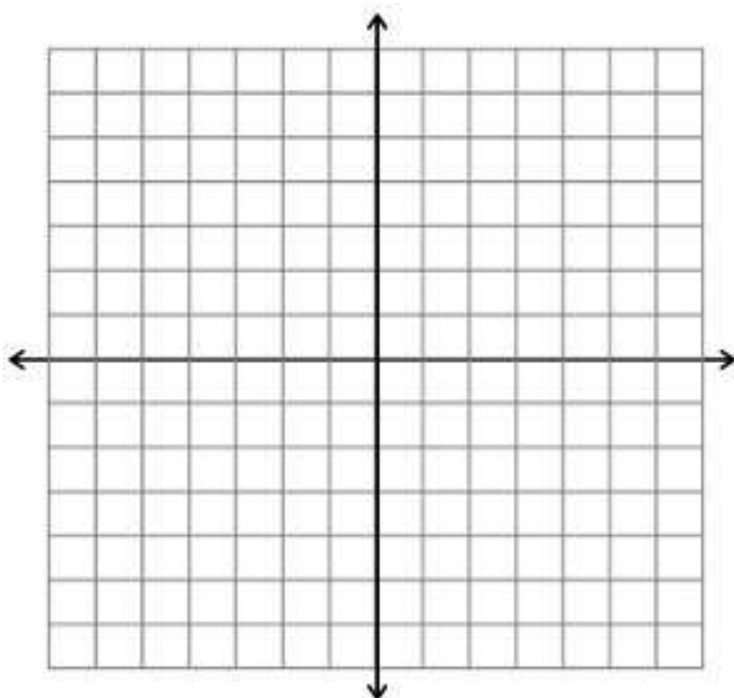
- choose values for x
- substitute the x-value in the equation to determine the y-value
- use the ordered pair (x, y) to graph the relation

Example 3

Create a table of values and a graph for each relation.

a) $y = x - 3$

x	$y = x - 3$	(x, y)
0	() - 3 =	
1	() - 3 =	
2	() - 3 =	
3	() - 3 =	
4	() - 3 =	

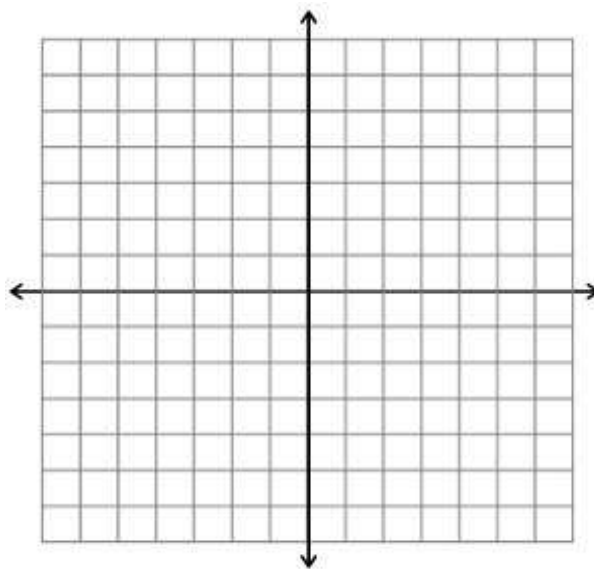


b) $y = \frac{1}{2}x + 1$

Denominator of 2:

Therefore choose x values that are multiples of 2.

x	$y = \frac{1}{2}x + 1$	(x, y)
0	$\frac{1}{2}(\quad) + 1 =$	
2	$\frac{1}{2}(\quad) + 1 =$	
4	$\frac{1}{2}(\quad) + 1 =$	
6	$\frac{1}{2}(\quad) + 1 =$	



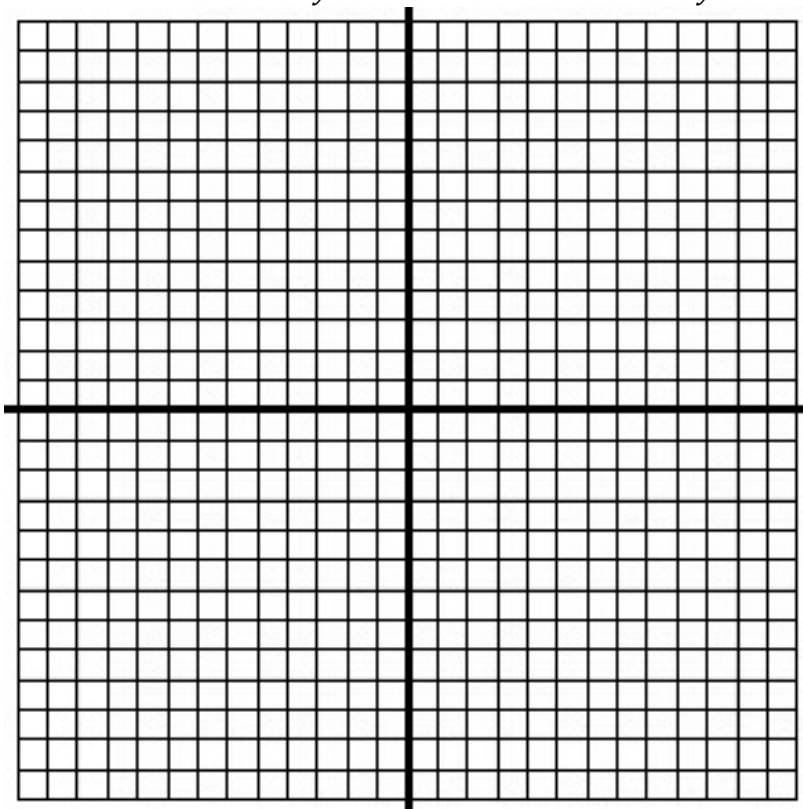
Homework

1. Complete Tables of Values for the following equations. Once you have a table of values, graph the points.

a. $y = 2x + 5$

b. $y = 3x - 3$

c. $y = -2x + 2$



Why Did Zorna Pour Ketchup on Her Brother's Hand?

Complete the table for each equation. Find each answer in the code key and notice the letter next to it. Write this letter in the box at the bottom of the page that contains the circled number in that row of the table.

1	$y = -2x$	
	x	y
	1	(1)
	4	(2)
	-5	(3)
	3	(4)

2	$y = 4 + 2x$	
	x	y
	3	(5)
	-7	(6)
	1	(7)
	-3	(8)

3	$y = -3x + 1$	
	x	y
	3	(9)
	-3	(10)
	4	(11)
	-2	(12)

4	$y = \frac{1}{2}x - 4$	
	x	y
	10	(13)
	-2	(14)
	4	(15)
	-8	(16)

5	$y = -x + 6$	
	x	y
	4	(17)
	-1	(18)
	6	(19)
	0	(20)

6	$y = -\frac{3}{2}x - 2$	
	x	y
	4	(21)
	2	(22)
	0	(23)
	-2	(24)

7	$y = 7 - 3x$	
	x	y
	6	(25)
	1	(26)
	0	(27)
	-2	(28)

8	$y = 1 - x$	
	x	y
	-2	(29)
	-9	(30)
	9	(31)
	6	(32)

CODE KEY

13	L
10	R
7	A
6	T
4	P
3	M
2	W
1	I
0	N
-2	H
-5	D
-6	B
-8	E
-10	O
-11	S

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
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