

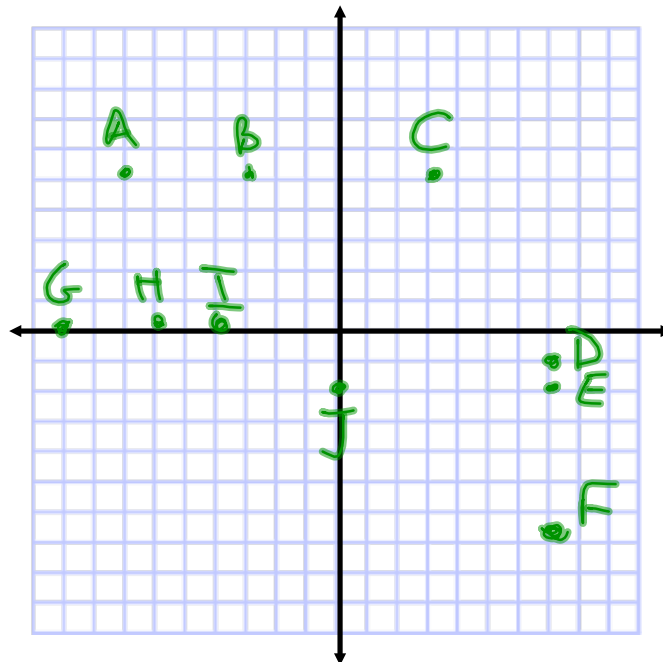
Algebra Ch. 5

Algebra 5-1: Horizontal and Vertical Lines



Warm-Up

Find the coordinates of the following points.

1. Point A $(-7, 5)$
2. Point B $(-3, 5)$
3. Point C $(3, 5)$
4. Point D $(7, -1)$
5. Point E $(7, -2)$
6. Point F $(7, -7)$
7. Point G $(-9, 0)$
8. Point H $(-6, 0)$
9. Point I $(-4, 0)$
10. Point J $(0, -2)$
- Handwritten notes: (x, y) at the top left. A blue bracket groups points 1-3 with the equation $y=5$. A red bracket groups points 4-6 with the equation $x=7$. A blue bracket groups points 7-9 with the equation $y=0$.



Algebra 5-1: Horizontal and Vertical Lines

Vocab	Definition	Example
Horizontal $y = \#$	• Line that goes left to right	
Vertical $x = \#$	• Line that goes up and down	

An equation in the form $y = \underline{\text{any } \#}$ forms a horizontal line.

An equation in the form $x = \underline{\text{any } \#}$ forms a vertical line.

Ways to Remember

A way to remember what $y = 3$ looks like is to think, "It goes through the y axis at 3."

A way to remember what $x = 3$ looks like is to think, "It goes through the x axis at 3."

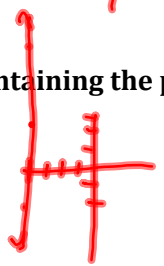
Another way to help remember is to make a table and plot the points.

Examples

For 1-2, write an equation for the line containing the points below.

1. $(-4, 3), (-4, 12) \text{ \& } (-4, -3)$


x	y
-4	3
-4	12
-4	-3



$x = -4$

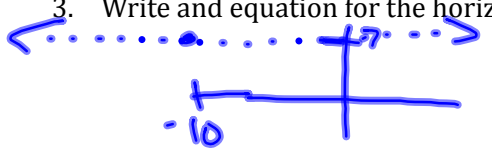
2. $(-3, 1), (-5, 1), \text{ \& } (7, 1)$

x	y
-3	1
-5	1
7	1



$y = 1$ horizontal line

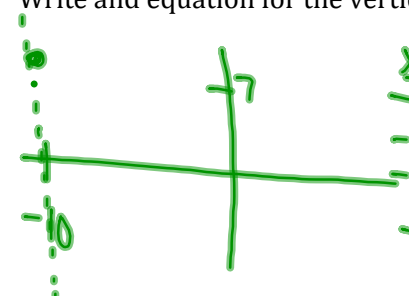
3. Write an equation for the horizontal line through $(-10, 7)$.



x	y
-10	7
0	7

$y = 7$

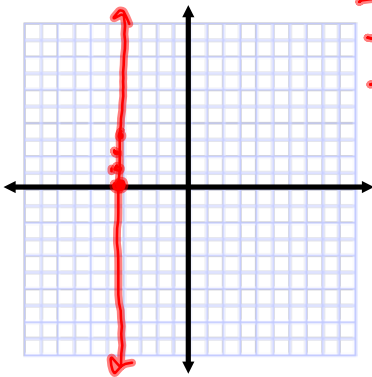
4. Write an equation for the vertical line through $(-10, 7)$.



x	y
-10	7
-10	4
-10	2
-10	3

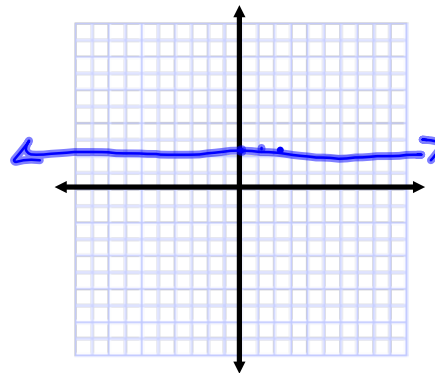
$x = -10$

5. Graph $x = -4$



x	y
-4	1
-4	2
-4	3

6. Graph $y = 2$



x	y
0	2
1	2
2	2

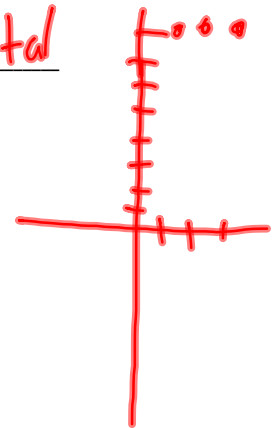
7. Charlie received \$8 allowance for each of the first 5 weeks of the year. Imagine that the points (1, 8), (2, 8), & (3, 8) are graphed to represent this situation.

a. What kind of line contains these points, a vertical or horizontal line?

horizontal

b. What is the equation for this line?

$y = 8$



Assignment: 5-1 #'s 5-12, 16-24, 6 graphs