

Unit 3 Day 21 Notes

SLOPE, HORIZONTAL, and VERTICAL LINES

#TBT: SOLVE EACH PROPORTION.

$$1. \frac{x}{8} = \frac{8}{16}$$

$$16x = 64$$

$$x = 4$$

$$2. \frac{6}{x-2} = \frac{3}{2}$$

$$12 = 3(x-2)$$

$$12 = 3x - 6$$

$$18 = 3x$$

$$x = 6$$



Case of the Missing Coordinate

Find the value of x so that the line passing through the points has the given slope:

3. $(2, 3)$ and $(x, 9)$; $m = \frac{3}{2}$.

$$\frac{3-9}{2-x} = \frac{3}{2}$$

$$12 = 3(x-2)$$

$$12 = 3x - 6$$

$$18 = 3x$$

$$x = 6$$

4. $(x, 4)$ and $(6, -1)$; $m = \frac{10}{3}$.

$$\frac{4-(-1)}{x-6} = \frac{10}{3}$$

$$-15 = 10(6-x)$$

$$-15 = 60 - 10x$$

$$-75 = -10x$$

$$x = 7.5$$

Let's Explore Horizontal and Vertical Lines:

a.) What would a graph of $y = 2$ look like?

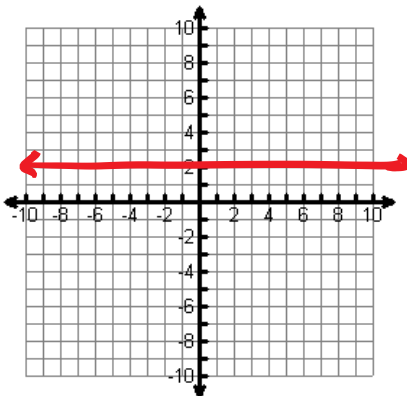
List 3 points that would have a y value of 2.

$$(-4, 2)$$

$$(0, 2)$$

$$(2, 2)$$

Now, plot the points and connect.



What kind of line is drawn? horizontal

This is the graph of $y = 2$

b.) What would a graph of $x = -1$ look like?

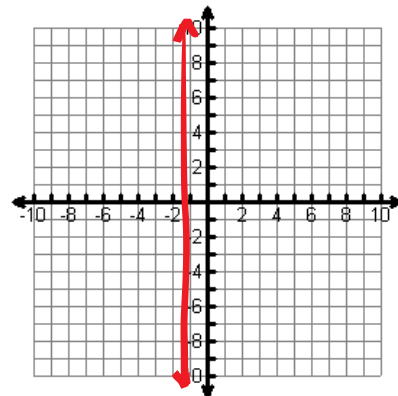
List 3 points that would have a x value of -1.

$$(-1, -1)$$

$$(-1, 0)$$

$$(-1, 10)$$

Now, plot the points and connect.



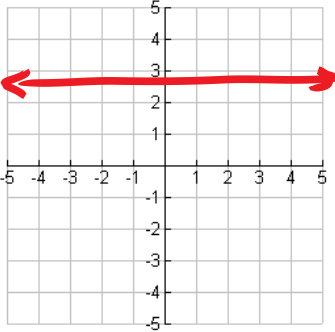
What kind of line is drawn? vertical

This is the graph of $x = -1$

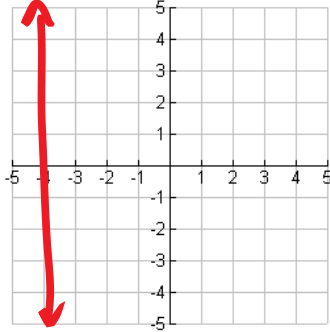
THE BIG IDEA

The graph of $y = \#$ is a horizontal line. The graph of $x = \#$ is a vertical line.

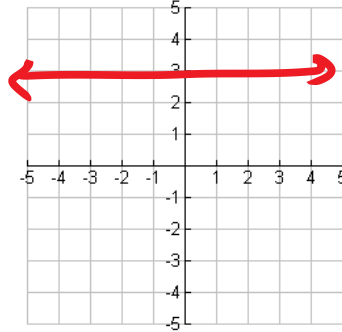
a.) $y = 2.5$



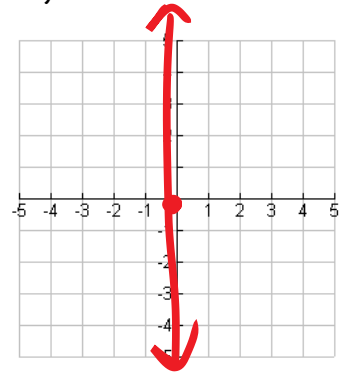
b.) $x = -4$



c.) $y = 3$

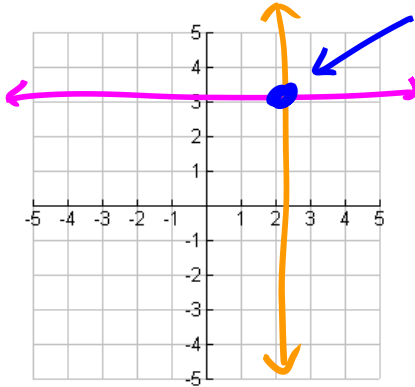


d.) $x = 0$



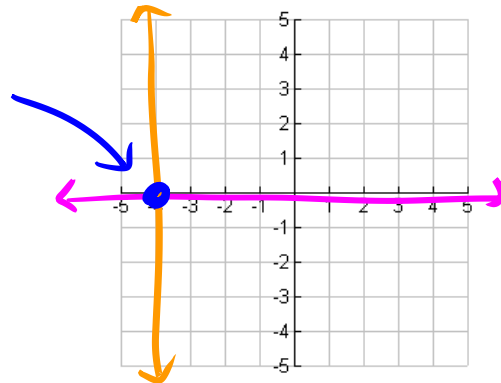
POINT OF INTERSECTION:

1. Graph $y = 3$ and $x = 2$ and list the intersection point.



The two lines intersect at (2, 3)

- 2) Graph $y = 0$ and $x = -4$ and list the intersection point.



The two lines intersect at (-4, 0)