

## Horizontal and Vertical Lines

**Horizontal Lines**  $\longleftrightarrow$

Horizontal lines are parallel to the X-axis and are of the form  $Y = \#$

Examples:

X	Y
6	-4
0	-4
5	-4

Graph  $y = -4$

Write the equation of the line passing through (1, -2), (5, -2), and (10, -2).

$y = -2$

Write the equation of the horizontal line passing through the point (7, 4).

$y = 4$

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## Vertical Lines

$\updownarrow$

Vertical lines are parallel to the y-axis and are of the form  $X = \#$

Examples:

X	Y
3	5
3	8
3	0

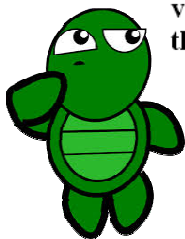
Graph  $x = 3$

Write the equation of the line passing through (2, -7), (2, 0), and (2, 5).

$x = 2$

Write the equation of the vertical line passing through the point (-5, 2).

$x = -5$



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Let's summarize...

**Slanted**

$$y = mx + b$$

**Horizontal**

$\longleftrightarrow$   
 $y = \#$

**Vertical**

$\updownarrow$   
 $x = \#$

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What is the equation of a horizontal line that passes through the point  $(8, 9)$ ?  <sup>$x, y$</sup>

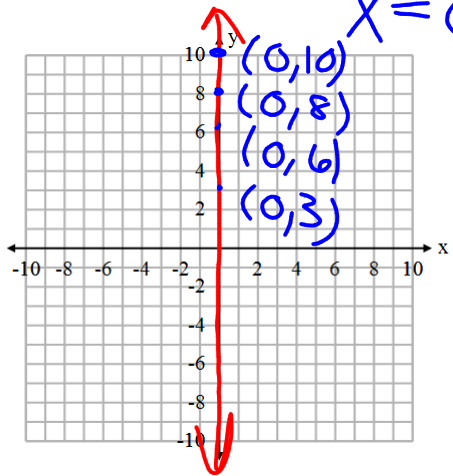
$y = 9$

What is the equation of a vertical line that passes through the point  $(-4, 5)$ ?

$x = -4$

What is the equation of the line that represents the y-axis?

$x = 0$



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What is the equation of the line that passes through the points  $(4, 3)$ ,  $(4, 7)$ ,  $(4, 10)$ ?

$$x = 4$$

What is the equation of a line that has no slope and passes through  $(5, -6)$ ?

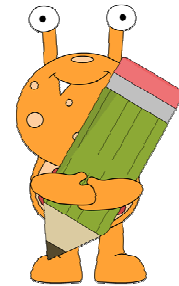
$$x = 5$$

What is the equation of a line that is the x-axis?

$$y = 0$$

What is the equation of the line that passes through the points  $(8, -2)$  and  $(5, -2)$ ?

$$y = -2$$



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