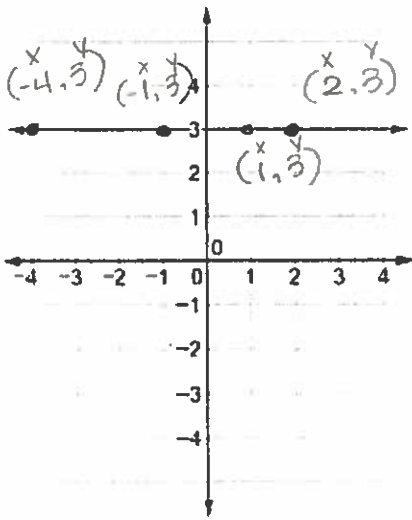
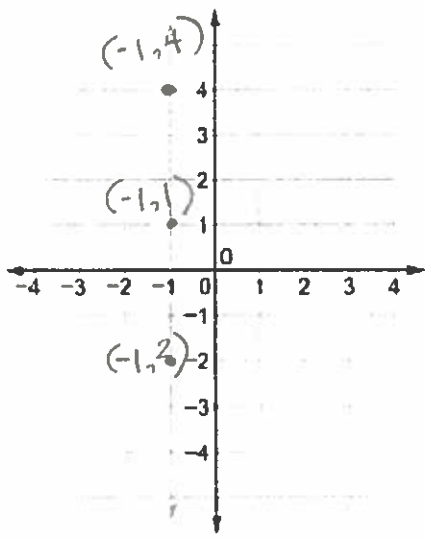


Name "Teacher"

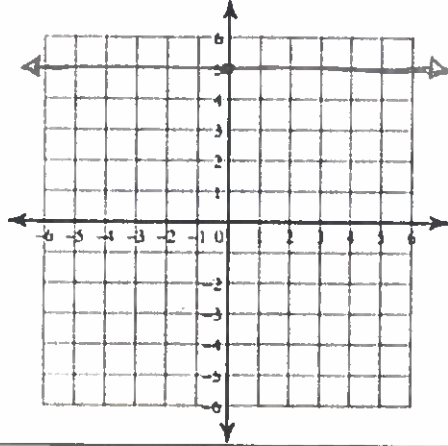
d 1/2 Date January 17, 2018 Section 2.E.5

**Horizontal & Vertical Lines**

Horizontal	Vertical
<p>Label at least three points on the line with their ordered pairs.</p>  <p>What do you notice? All of the "y-values" are (3).</p> <p>The linear equation is <math>y = 3</math></p> <p>Pick two points on the line and calculate the slope.  <math>(-4, 3)</math> and <math>(1, 3)</math>  <math>x_1 \quad y_1 \quad x_2 \quad y_2 \quad m = \frac{y_1 - y_2}{x_1 - x_2}</math>  <math>m = \frac{3 - 3}{-4 - 1} = \frac{0}{5} = 0</math> ✓</p> <p>What do you notice? The "y-values" on top cancel out.</p>	<p>Label at least three points on the line with their ordered pairs.</p>  <p>What do you notice? All of the "x-values" are (-1).</p> <p>The linear equation is <math>x = -1</math></p> <p>Pick two points on the line and calculate the slope.  <math>(-1, 4)</math> and <math>(-1, 2)</math>  <math>x_1 \quad y_1 \quad x_2 \quad y_2 \quad m = \frac{y_1 - y_2}{x_1 - x_2}</math>  <math>m = \frac{4 - 2}{-1 - (-1)} = \frac{2}{0} = 0</math> undefined slope</p> <p>What do you notice? The "x-values" on the bottom cancel out.</p>
<p><b>H</b> - Horizontal lines...</p> <p><b>O</b> - Zero slopes...</p> <p><b>Y</b> - "y-axis" and "y-values".. y = equation...</p>	<p><b>V</b> - Vertical line...</p> <p><b>U</b> - undefined slope...</p> <p><b>X</b> - x = equation...</p>

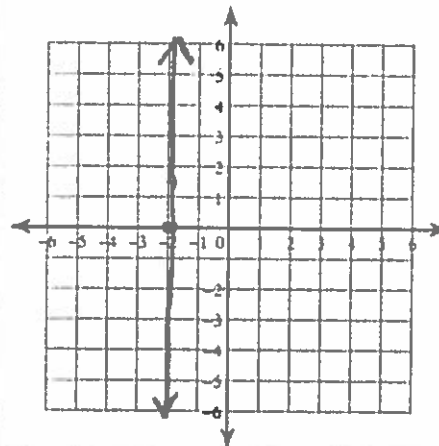


**Ex. 1** Draw the graph of the line whose equation is  $y = 5$ . What is its slope?  $m=0$



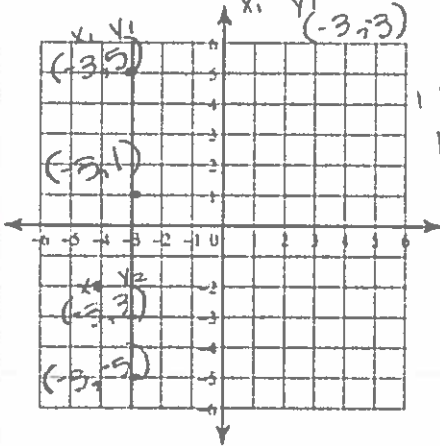
HOY

**You Try** Draw the graph of the line whose equation is  $x = -2$ . What is its slope?



$m = \text{undefined}$   
VOX...

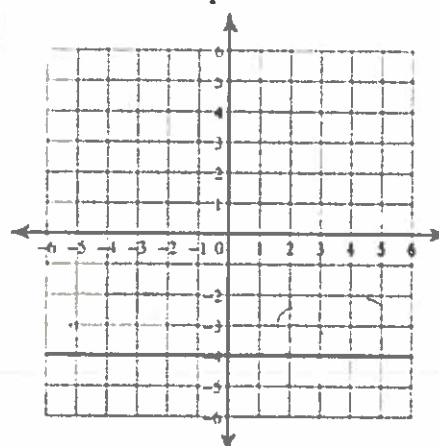
**Ex. 2** What is the equation of this line? What is its slope?  $(-3, 5)$



$$m = \frac{y_1 - y_2}{x_1 - x_2}$$

$x = -3$   
 $m = \text{undefined}$   
VOX

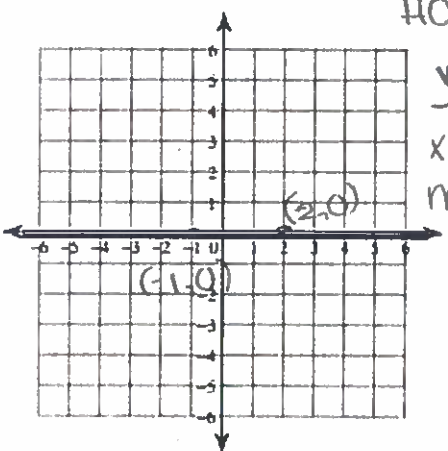
**You Try** What is the equation of this line? What is its slope?



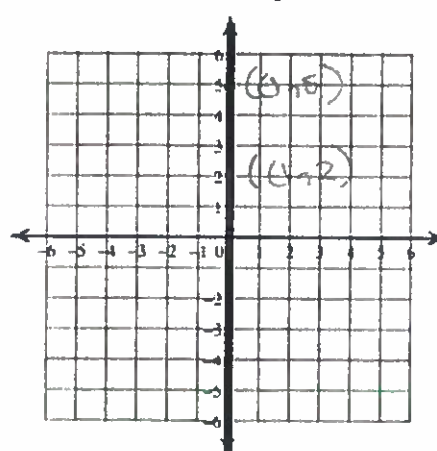
$$m = \frac{y_1 - y_2}{x_1 - x_2}$$

$y = -4$   
 $m = 0$   
HOY

**Challenge** What are the equations for the lines of each axis? What are the slopes of those lines?



HOY  
 $y = 0$   
x-axis  
 $m = 0$



VOX  
 $x = 0$   
y-axis  
 $m = \text{undefined}$