

## Horizontal and Vertical Lines

### Horizontal line:

- STRAIGHT LINE
- PARALLEL TO X-AXIS
- ALL POINTS HAVE THE EXACT SAME Y-COORDINATE (Y-VALUE DOES NOT CHANGE)
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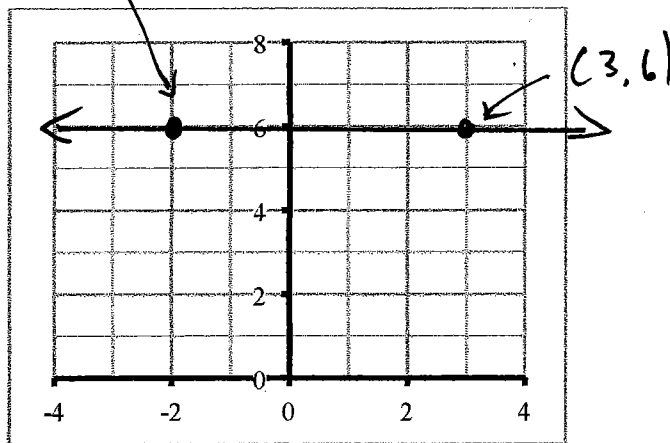
Equation:  $y = b$

Where:

o  $b$  is any number (WHOLE, FRACTION, OR DECIMAL)

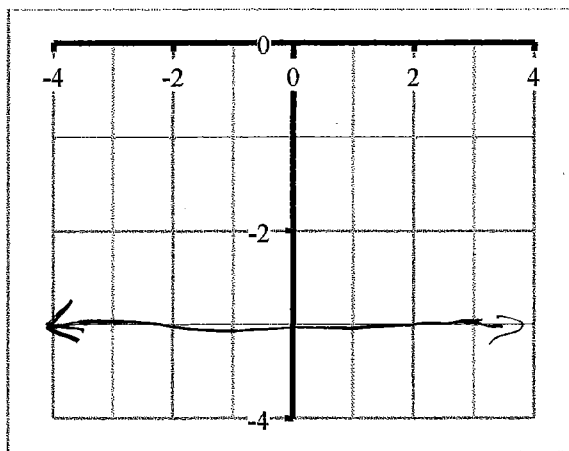
o  $b$  IS WHERE THE LINE CROSSES THE Y-AXIS (Y-INTERCEPT)

Ex.  $y = +6$

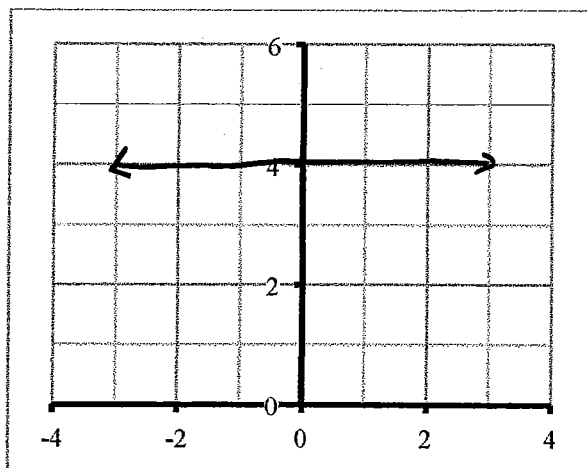


Ex.  $y + 3 = 0$   
 $-3 -3$

$y = -3$



Ex.  $\frac{3}{3}y = \frac{12}{3}$   
 $y = 4$



### Vertical Line:

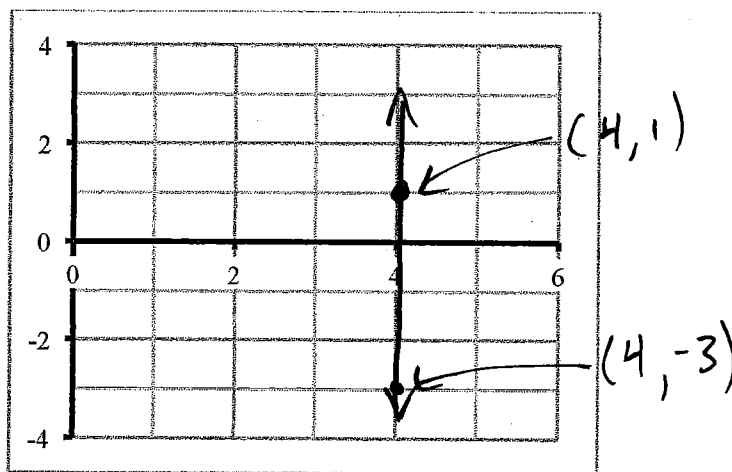
- STRAIGHT LINE
- GOES UP & DOWN
- PARALLEL TO Y-AXIS
- ALL POINTS HAVE THE SAME X-VALUE (DOES NOT CHANGE)

Equation:

Where:

- o  $a$  is any number (WHOLE, FRACTION OR DECIMAL)
- o  $a$  IS WHERE LINE CROSSES THE X-AXIS (X-INTERCEPT)

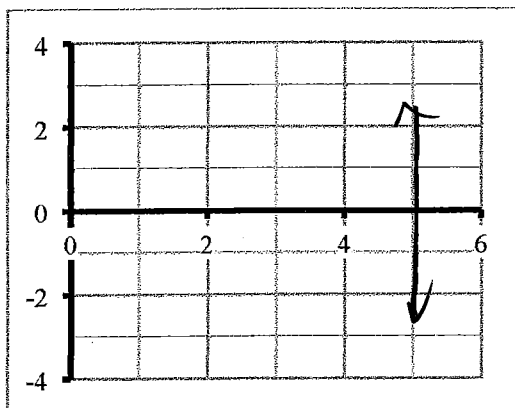
Ex.  $x = 4$



$$\text{Ex. } x - 5 = 0$$

$$+5 \quad +5$$

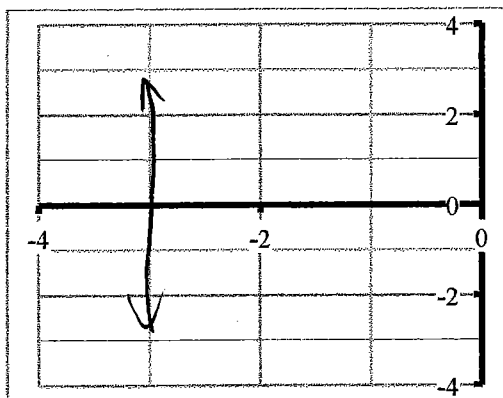
$$x = 5$$



$$\text{Ex. } -2x = 6$$

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

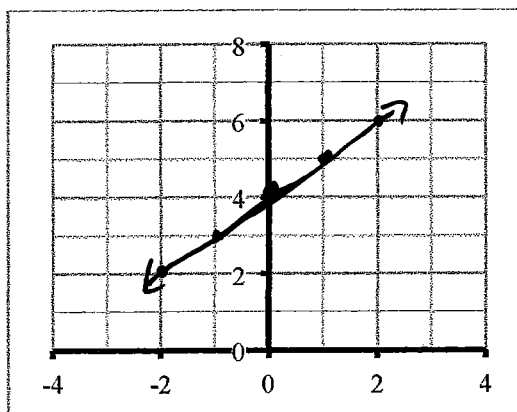
$$x = -3$$



### Y-Intercept

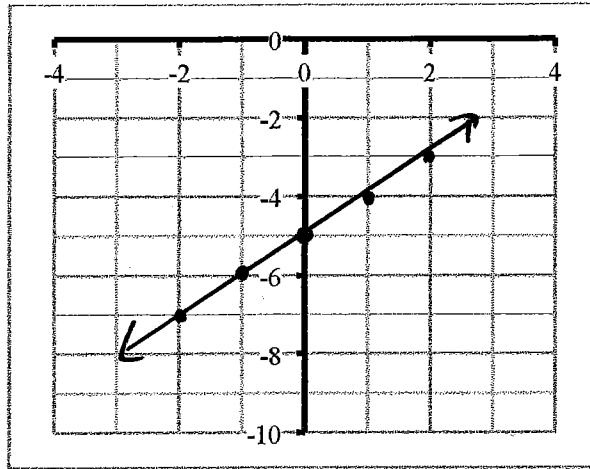
- VALUE OF Y AT THE POINT WHERE IT CROSSES THE Y-AXIS
- ALWAYS THE CONSTANT ATTACHED BY + OR - TO THE X
  - o THE X IS ALWAYS WRITTEN BEFORE THE CONSTANT

$$\text{Ex. } y = x + 4$$



$$\text{Ex. } \begin{array}{r} y + 5 = x \\ -5 \quad -5 \end{array}$$

$$y = x - 5$$



$$\text{Ex. } \begin{array}{r} y + x = 2 \\ -x \quad -x \end{array}$$

$$y = -x + 2$$

