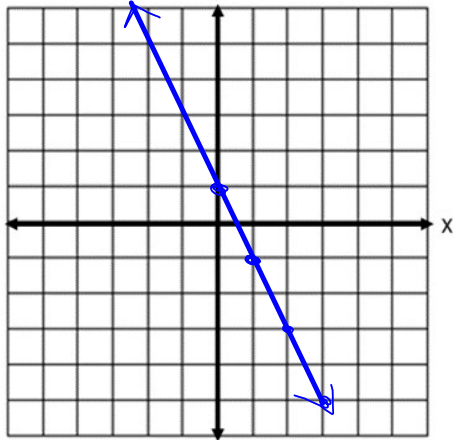


Graphing Line Equations ($y = mx + b$)

ex) $y = -2x + 1$

$\begin{matrix} -2 \downarrow \\ 1 \rightarrow \end{matrix}$



Slope (m) = $\frac{\text{rise}}{\text{run}}$

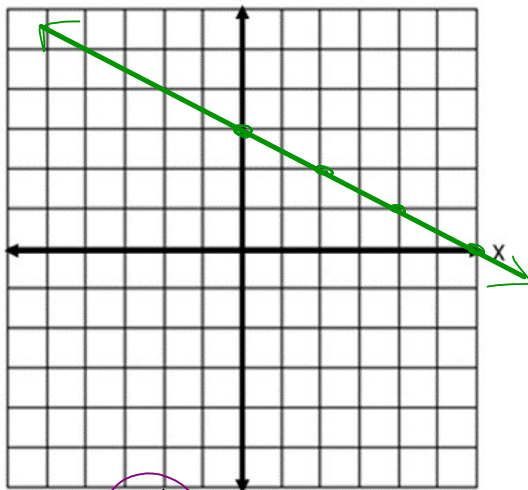
y-intercept (b) = where the line crosses or touches the y-axis.

Steps:

1. Plot y-intercept point first as a point $(0, b)$
2. Start at y-intercept and use slope to plot next point
3. Connect points and add arrows

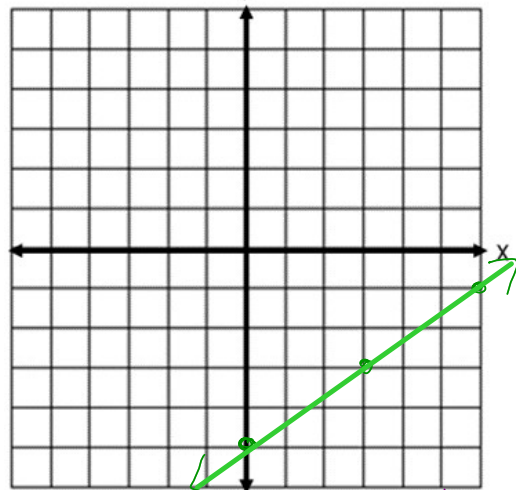
ex) $y = -\frac{1}{2}x + 3$

$\begin{matrix} -1 \downarrow \\ 2 \rightarrow \end{matrix}$



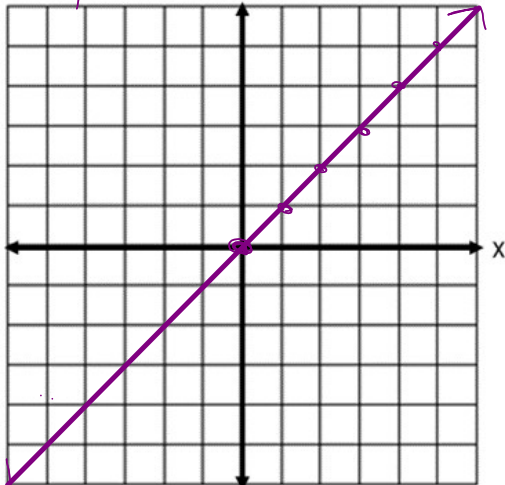
ex) $y = \frac{2}{3}x - 5$

$\begin{matrix} 2 \uparrow \\ 3 \rightarrow \end{matrix}$



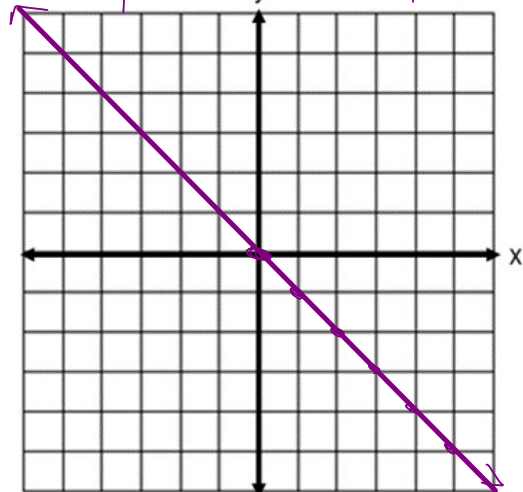
ex) $y = 1x + 0$

$\begin{matrix} 1 \uparrow \\ 1 \rightarrow \end{matrix}$

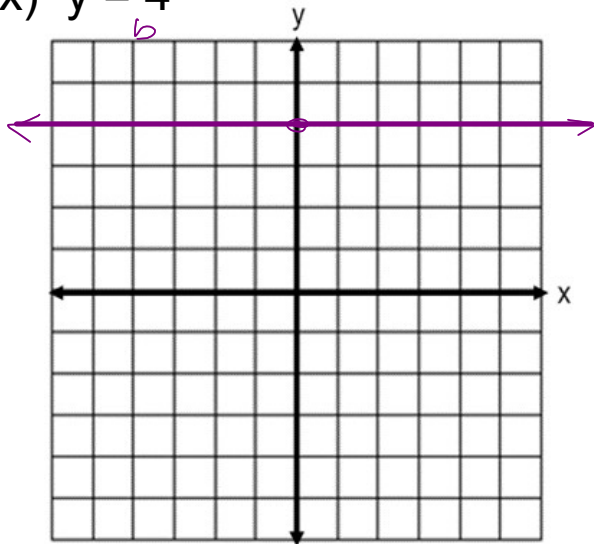


ex) $y = -1x + 0$

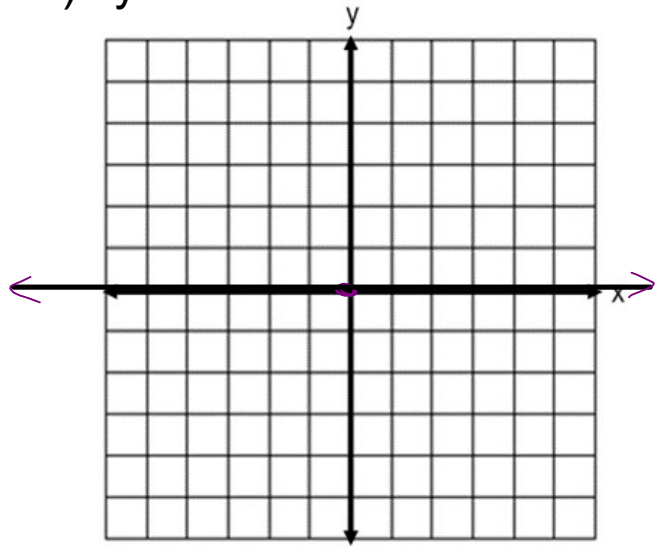
$\begin{matrix} -1 \downarrow \\ 1 \rightarrow \end{matrix}$



ex) $y = 4$



ex) $y = 0$

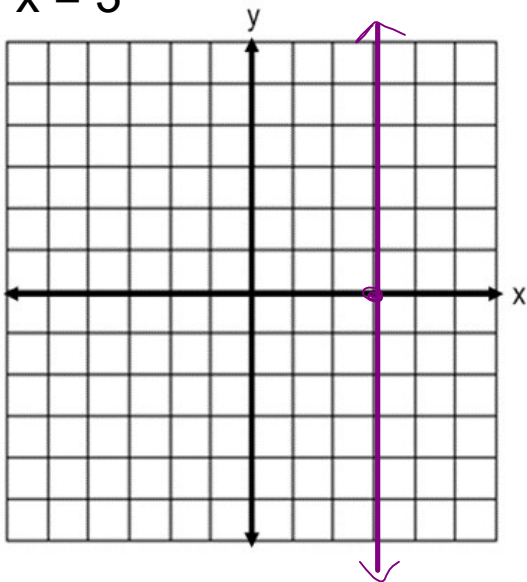


In general,

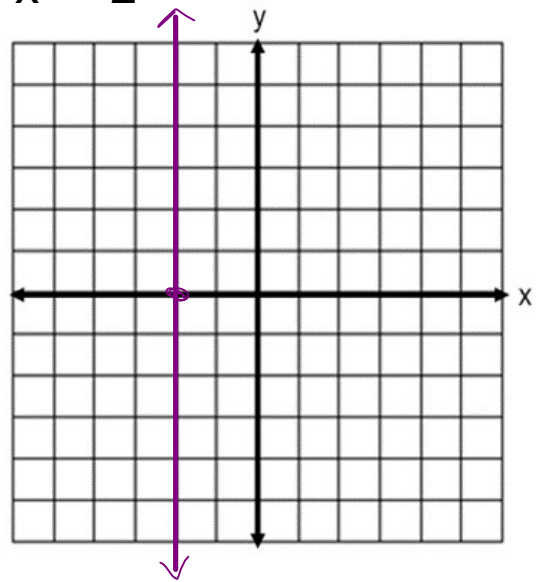
$y = \#$ is always a horizontal line through the y-axis at that number.

slope is **0**

ex) $x = 3$



ex) $x = -2$



In general,

$x = \#$ is always a vertical line through the x-axis at that number.

slope is **undefined**

Pink WS

Quiz → Monday

calculators allowed

* formulas will be given to you

- 1) Distance formula (Blue #1)
- 2) midpoint formula (Blue #3)
- 3) midpoint w/ missing endpoint (Blue #5)
- 4) Slope formula (Purple bottom questions)