

WIN 1-5 → Graphs from Equations

$$Y = mX + b$$

↓
stays
"y"

↓
stays
"x"

Slope (OR) $\frac{\text{Rise}}{\text{Run}}$

↓
y-intercept

b
How steep the
line is

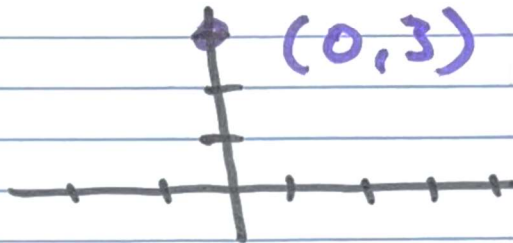
↓
What "y" is
When "x" is 0

$$y = mx + b$$

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

Step 1 Start with y-intercept

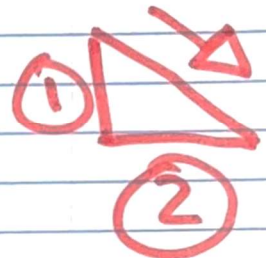
$$b = 3$$



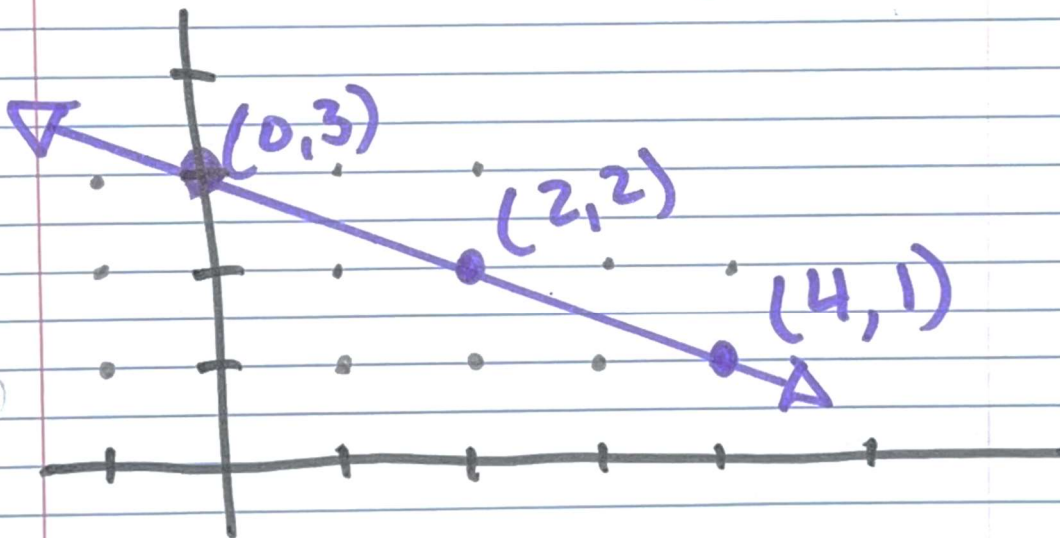
Step 2 walk the slope

$$m = -\frac{1}{2}$$

$$\frac{\text{Rise}}{\text{Run}} = -\frac{1}{2}$$

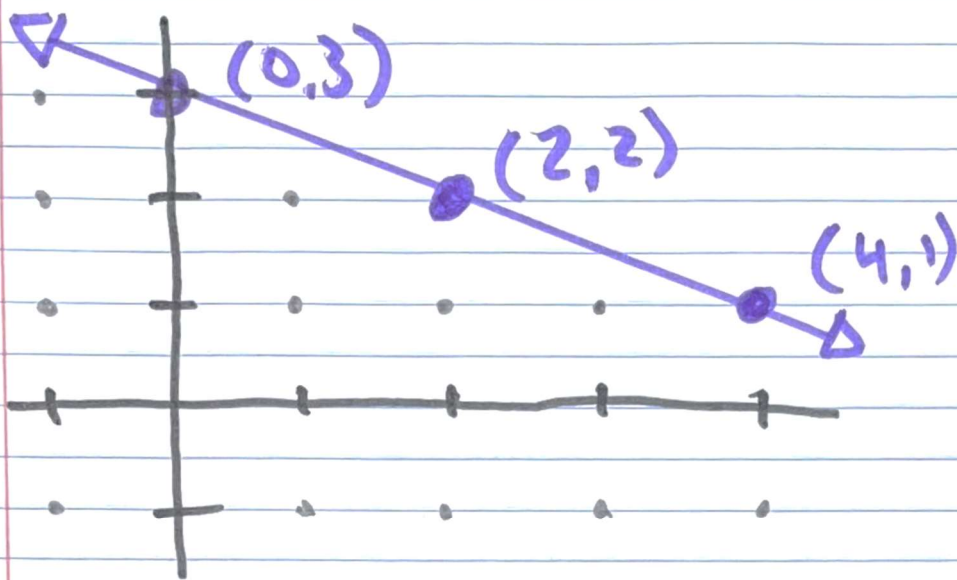


Note! Negative Slope!



ONE MORE THING!

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



All coordinates work in Equation!

$$y = -\frac{1}{2}x + 3 \quad 3 = -\frac{1}{2}(0) + 3 \quad 3 = 3$$

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

$$y = -\frac{1}{2}x + 3 \quad 1 = -\frac{1}{2}(4) + 3 \quad 1 = 1$$