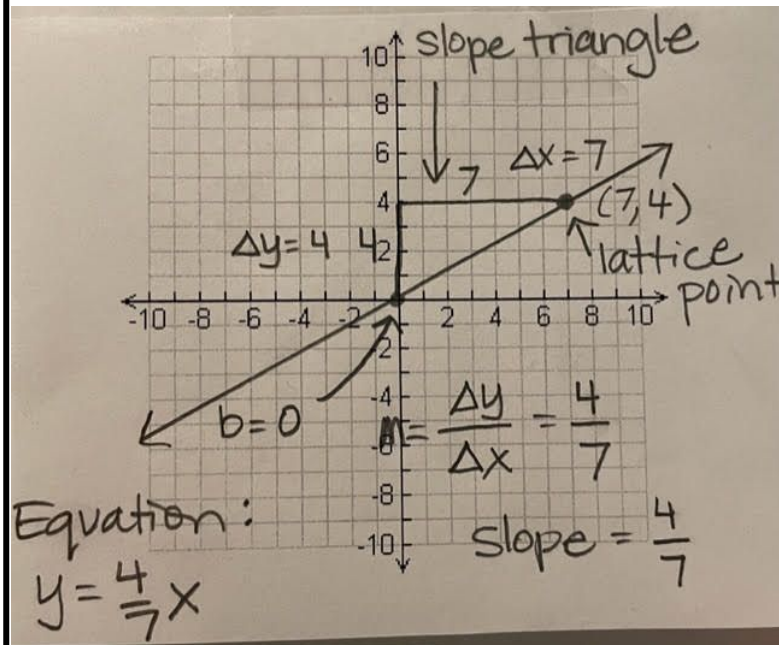# y=mx+b and Slope Notes

Important Information

- Variables-letters that represent numbers.

- y-output

- m-slope, growth, $\dfrac{rise}{run} = \dfrac{\Delta y}{\Delta x}$

- x-input

- b- the y-intercept (where the graph crosses the y-axis)

Examples

slope triangle

$\Delta x = 7$

(7, 4)

lattice point

$\Delta y = 4$

b = 0

$M = \dfrac{\Delta y}{\Delta x} = \dfrac{4}{7}$

slope $= \dfrac{4}{7}$

Equation:

$y = \dfrac{4}{7}x$

Things to remember!

- Lattice Point- a point on a graph such that the x and y coordinates are whole numbers.

- △y- read "change in y" or delta y, is the vertical distance of a slope triangle (aka rise).

- △x- read "change in x" or delta x, is the horizontal distance of a slope triangle (aka run).

More Examples

- **What effect does m have on a graph of a line?**

- **What effect does b have on a graph of a line?**