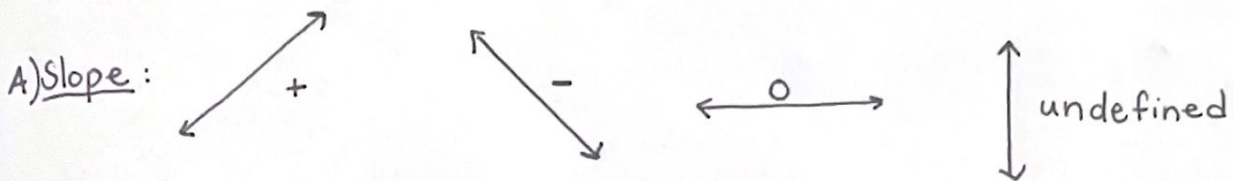


6. slope and y-intercept

$$y = mx + b$$

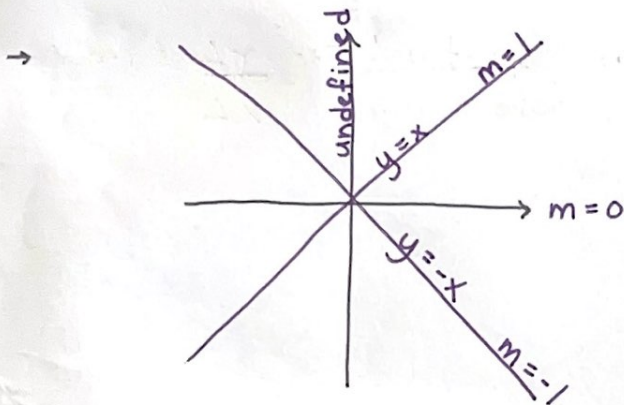
↑
y-intercept

↓
slope



→ Why m? monter (to climb)

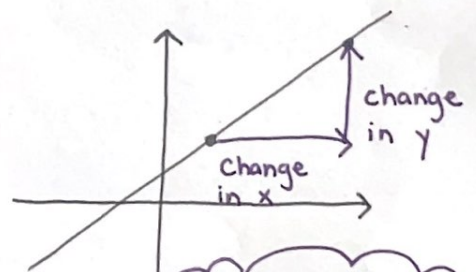
→ Also called Rate of Change



→ The slope of a line describes how steep a line is.

→

$$\text{slope} = \frac{\text{change in } y}{\text{change in } x} = \frac{\Delta y}{\Delta x}$$



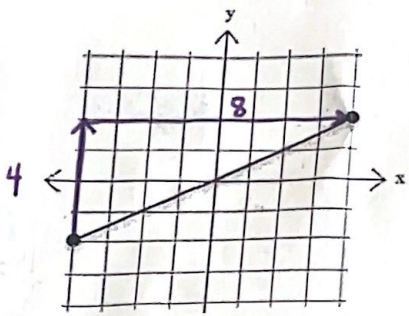
→ Tip to remember: "Rise over run"

Rise ↑
Run →

Direction from
one point to
another.

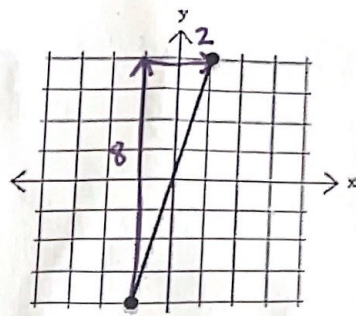
Examples ;

a)



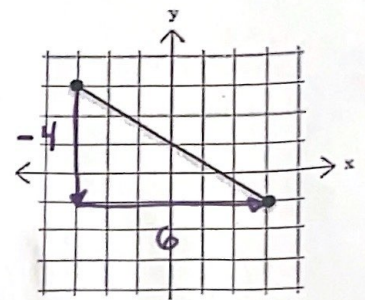
$$m = \frac{\Delta y}{\Delta x} = \frac{4}{8} = \frac{1}{2}$$

b)



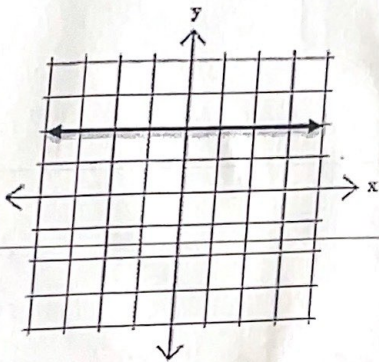
$$m = \frac{\Delta y}{\Delta x} = \frac{8}{2} = 4$$

c)



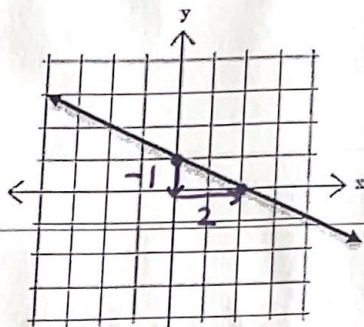
$$m = \frac{-4}{6} = -\frac{2}{3}$$

d)



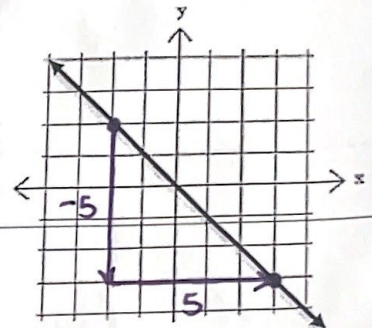
$$m = 0$$

e)



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

f)



$$m = \frac{-5}{5} = -1$$