Converting Linear Equations

Q: What are the 2 forms that we have learned?

Point slope & Slope intercept form

converting

Point slope → Slope intercept

USE ALGEBRA!!

Ex 1: Convert $y-3=2(x+1)+1$ into slope intercept form.

GOAL: $y=mx+b$

y alone!

#'s and variables seperate

$y-3=2(x+1)+1$

$y-3=2x+2+1$

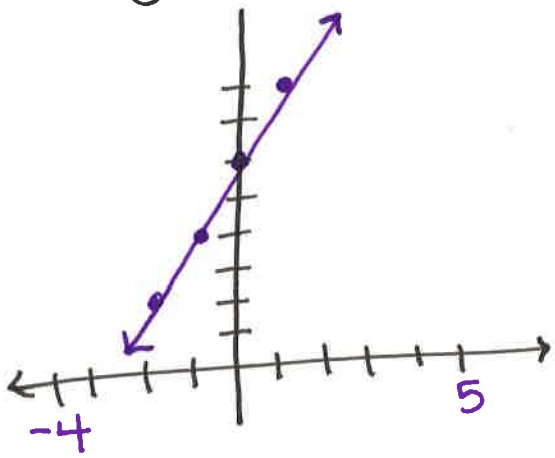
$y-3+3=2x+3+3$

Slope Intercept → $y=2x+6$

* What is the slope & y-intercept?

$m=2$ y int:

* Sketch a graph



yt) convert $y+2=-3(x-4)$ to slope intercept form.

$$y+2=-3(x-4)$$
$$y+2=-3x+12$$
$$\boxed{y=-3x+10}$$

Ex 2: A line passes through the points $(-2,-10)$ & $(3,5)$

a) write an equation in point slope form.

$$m=\frac{5-(-10)}{3-(-2)}=\frac{15}{5}=3$$

$y-5=3(x-3)$ or $y+10=3(x+2)$

b) convert your equation in slope intercept.

$$y-5=3(x-3)$$
$$y-5=3x-9$$
$$\boxed{y=3x-4}$$

yt) A caterer charges \$120 to cater a party for 15 people & \$200 for 25 people. write an equation in slope intercept form.

$$m=\frac{200-120}{25-15}=8$$

(15,120)
(25,200)

Tip! writing it in point slope first could be helpful ☺

$$y-200=8(x-25)$$
$$y-200=8x-200$$
$$\boxed{y=8x}$$