Determine Slope from a Graph Notes

5/12/15

Slope = $\frac{\text{rise up}}{\text{run out}}$

Step #1: pick 2 nice points on the graph/line (x, y)

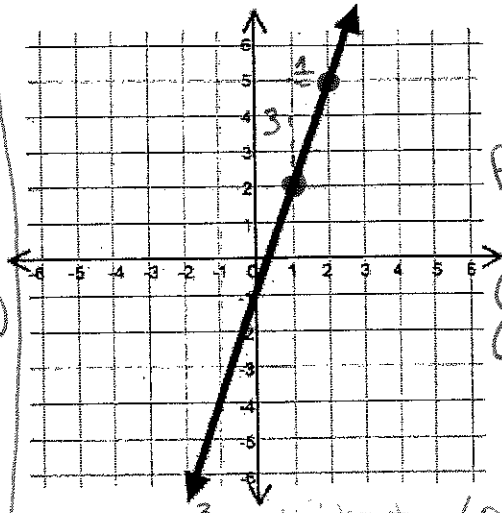
Step #2: Find slope (rise up and run down)

$m = \frac{\text{rise}}{\text{run}}$

Step #3: Find y-intercept (0, b)

Step #4: Write equation of graph

$y = mx + b$



Positive slope

(2,5)

(1,2)

$m = \frac{3}{1}$ y-intercept = (0,-1)

$y = 3x + 1$

Pick a second point that is close to the first → that way you don't have to reduce

(2,3)

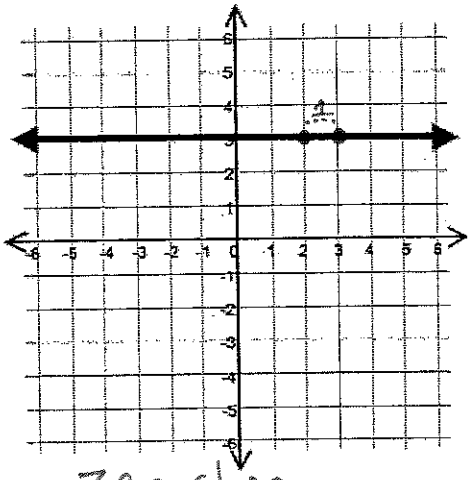
(3,3)

$m = \frac{0}{1}$

y-intercept = (0,3)

$y = 0x + 3$

$y = 3$



Zero slope

Can't divide by 0 → Undefined

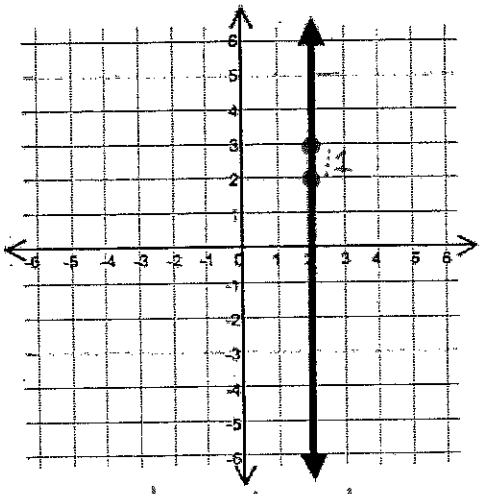
(2,2)

(2,3)

$m = \frac{1}{0}$

y-intercept = none

$x = 2$



Undefined slope

Slope = $\frac{\text{rise up}}{\text{run out}}$

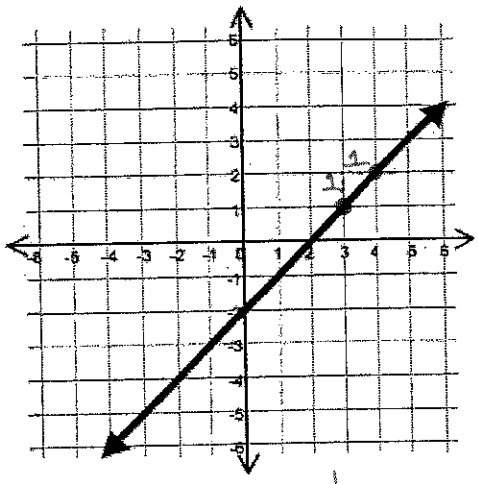
(3, 1)
(4, 2)

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

y-intercept = (0, -2)

$y = 1x + (-2)$

$\boxed{y = x - 2}$



Positive Slope

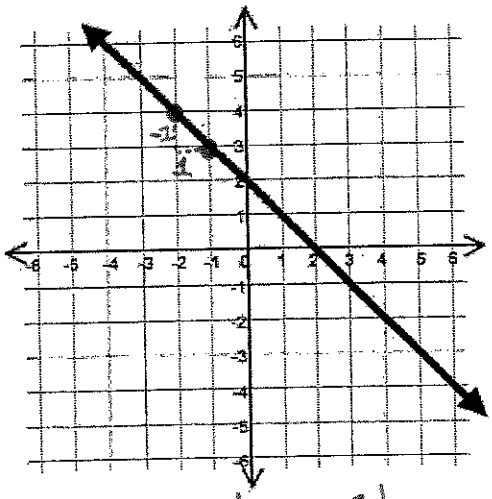
(-2, 4)
(-1, 3)

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

y-intercept = (0, 2)

$y = -1x + 2$

$\boxed{y = -x + 2}$



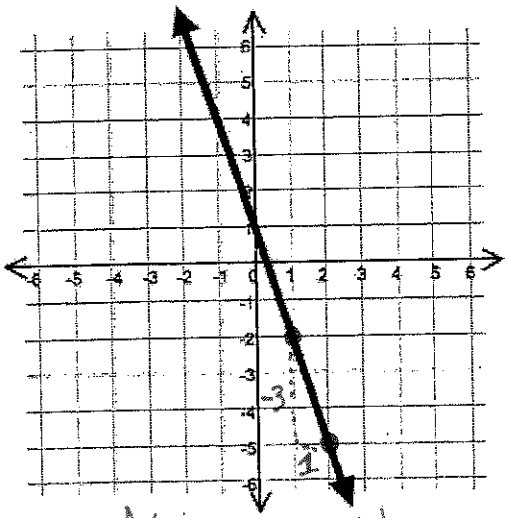
Negative Slope

(1, -2)
(2, -5)

$m = \frac{-3}{1}$

y-intercept = (0, 1)

$\boxed{y = -3x + 1}$



Negative Slope