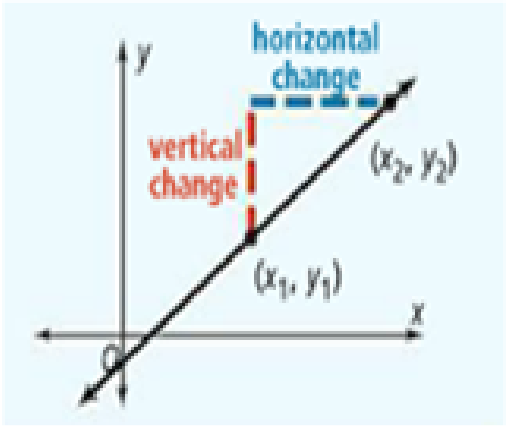
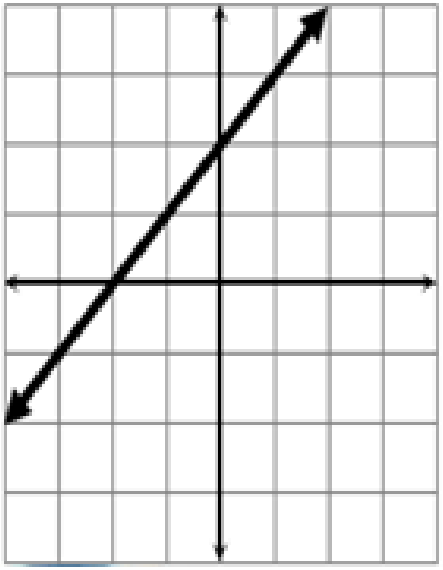
2.3 Linear Functions and Slope-Intercept Form

- Slope:

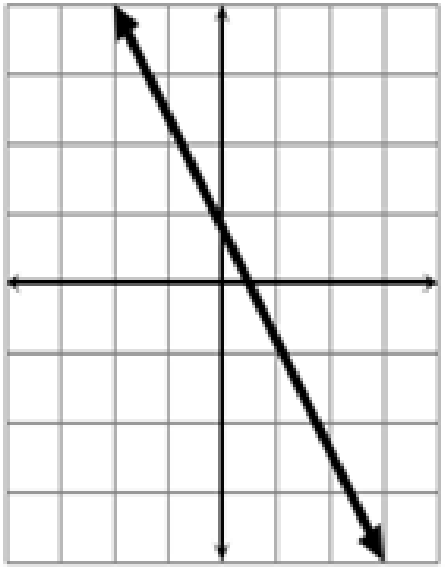


Ex.4 Find the slope of the line shown below.

a)



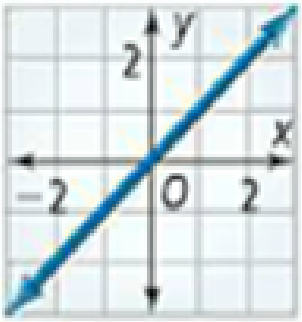
b)



Take Note

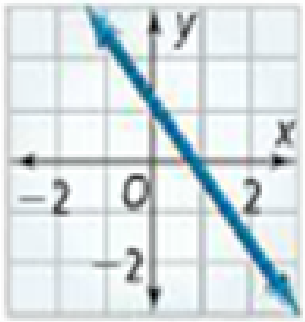
Concept Summary Slope of a Line

Positive Slope



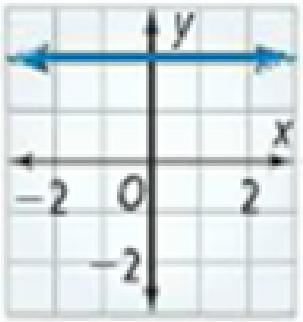
Line rises from left to right

Negative Slope



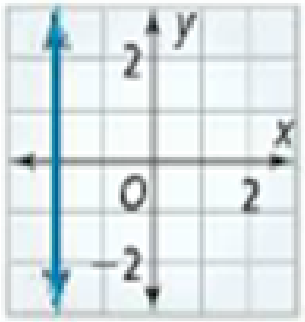
Line falls from left to right

Zero Slope



Horizontal line

Undefined Slope



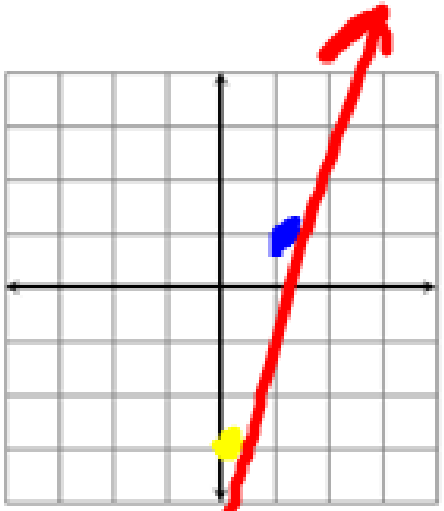
Vertical line

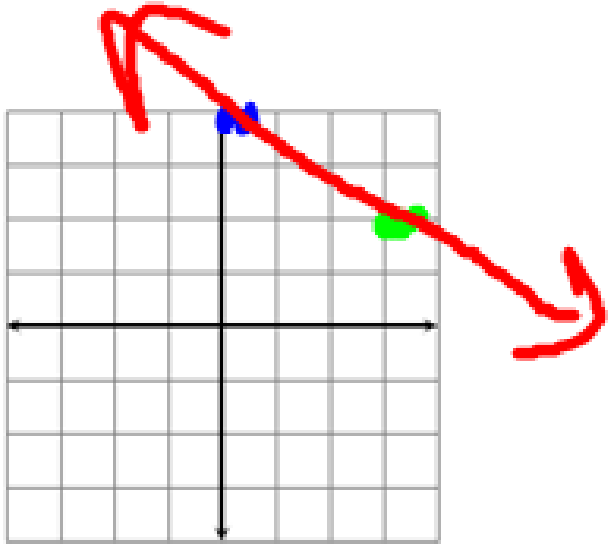
SLOPE-INTERCEPT FORM: $y = mx + b$

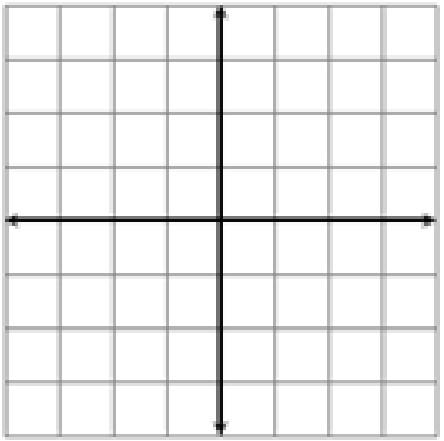
$m =$ slope $\quad b =$ y-intercept

(0, b)

$y = m(0) + b$







$y = 4x - 3$

$y = -\frac{2}{3}x + 4$

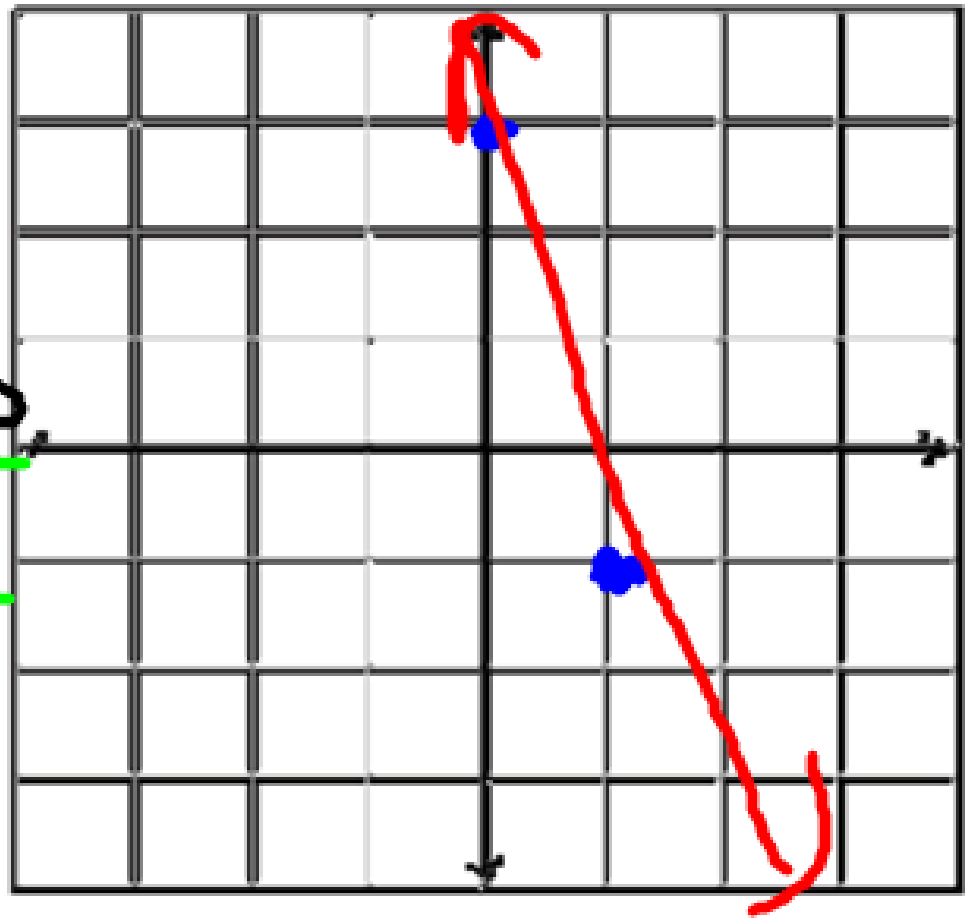
① $8x + 2y = 6$

$-8x \qquad -8x$

$2y = -8x + 6$

$\frac{2y}{2} = \frac{-8x}{2} + \frac{6}{2}$

$y = -4x + 3$



(2)

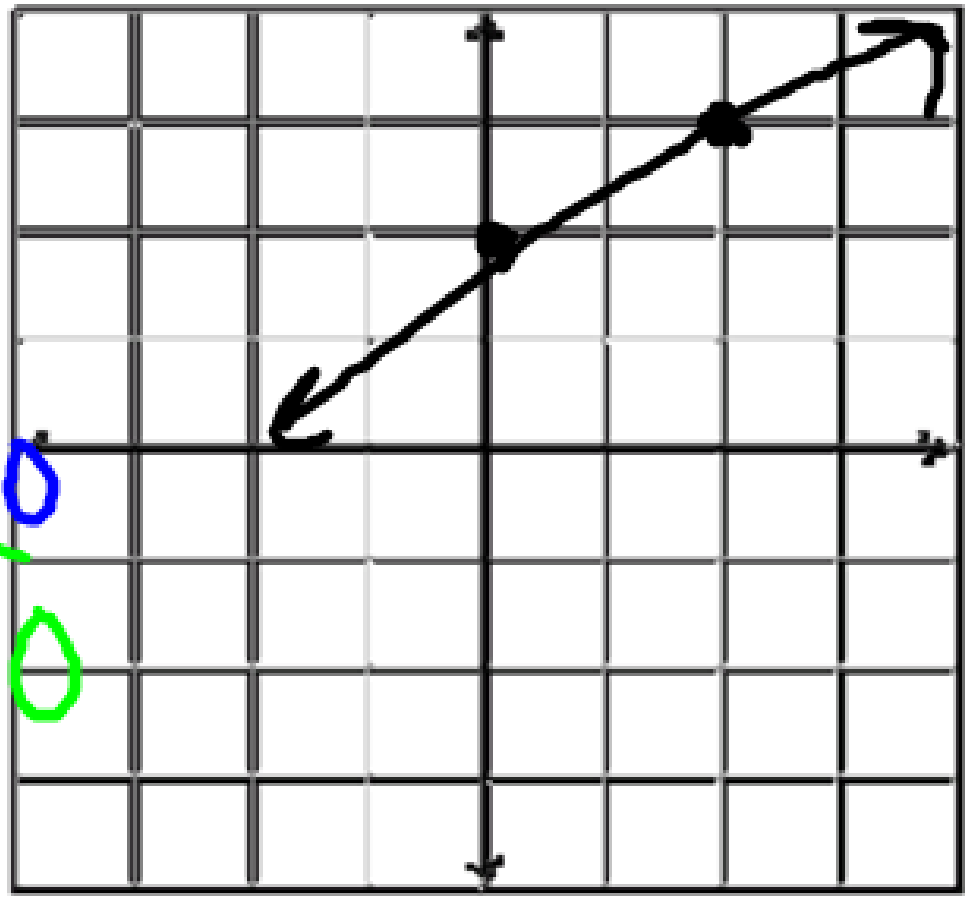
$5x - 10y = -20$

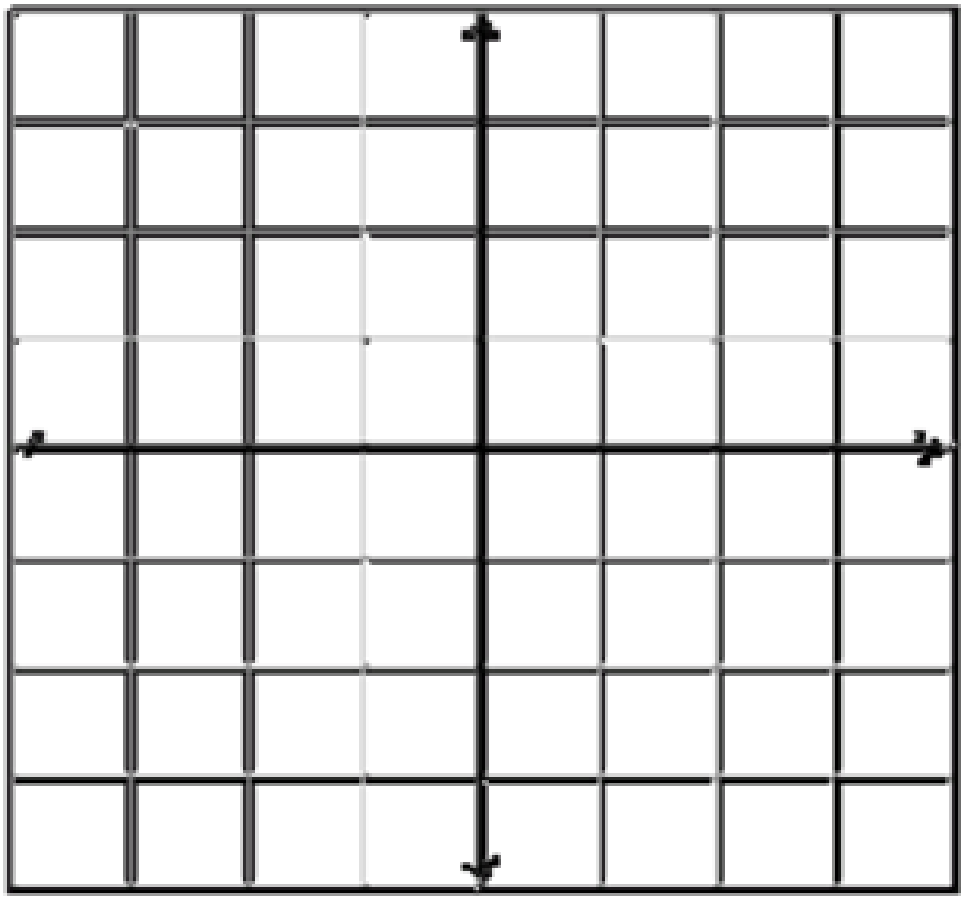
$-5x \qquad -5x$

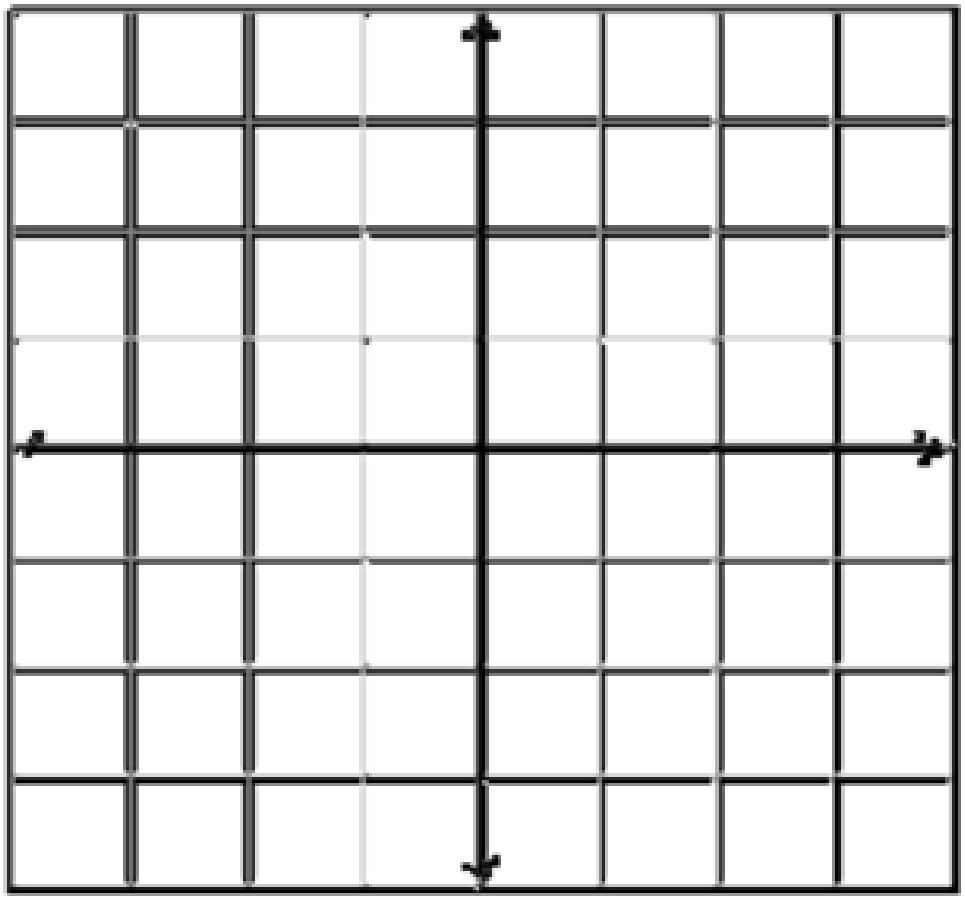
$-10y = -5x - 20$

$\frac{-10y}{-10} = \frac{-5x}{-10} - \frac{20}{-10}$

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

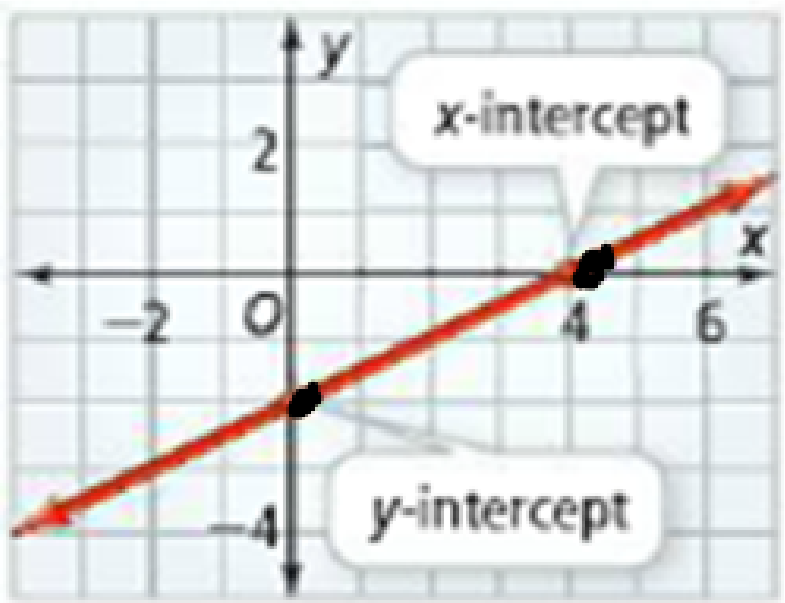






STANDARD FORM: $Ax + By = C$

where A *and* $B \neq 0$.



y-int (0, y)

x-int (x, 0)

③

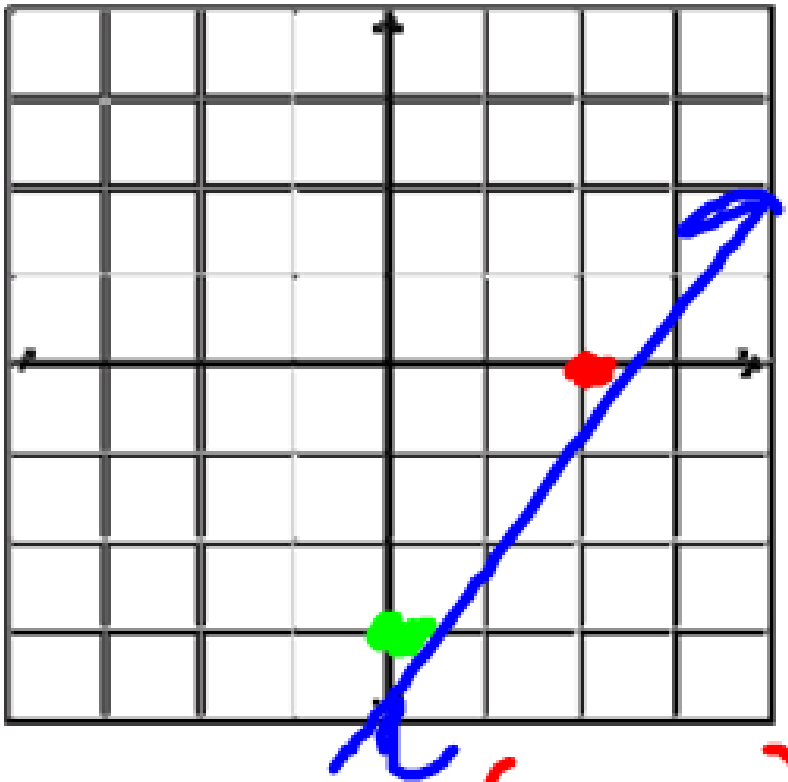
$3x - 2y = 6$

y-int

$-2y = 6$

$y = -3$

$(0, -3)$



x-int $(2, 0)$

$3x = 6$

$x = 2$