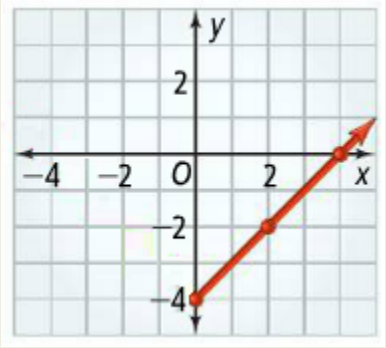
Algebra 1

Chapter 5
Section 5-3

Slope Review

$$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$$



Line between (9, 3) and (-2, 6)

Line between (1, 8) and (7, 11)

Slope Review

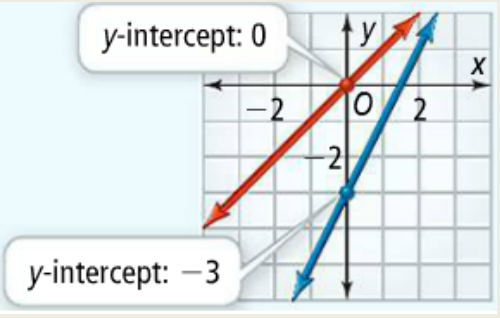
The Slope is the rate of change for the variables x and y.

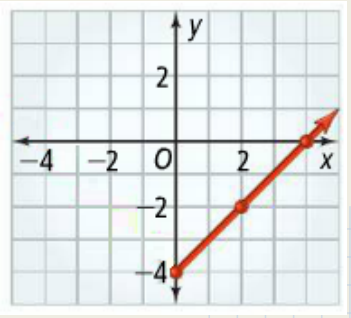
x	0	2	4	6
y	11	8	5	2

Slope: $\frac{-3}{2}$

Y-Intercept

The y-intercept is the y-coordinate at which a line crosses the y-axis.





Y-Intercept in Equations

What is the value of x at the y-axis?

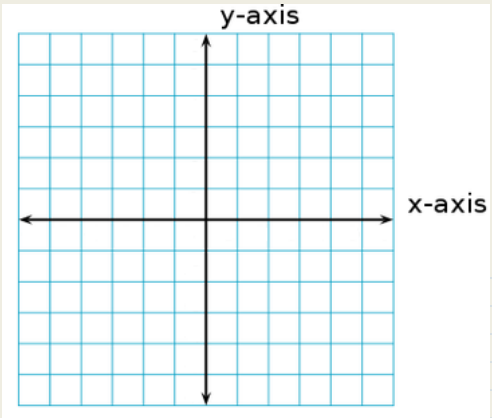
Find the y-intercepts:

$y = 3x + 2$

$y = \frac{7}{4}x - 1$

$y = -3x + \frac{5}{9}$

$y = -x + 7$



Slope-Intercept Form

slope

y-intercept

$y = mx + b$

(x, y)
set of ordered pairs

Using the Formula

Identify the slope and y-intercept:

$y = 3x - 4$

$y = -\frac{7}{11}x + 3$

$3y - 2x = 1$

Write an equation of a line with the following:

y-intercept: -2, slope: 4

y-intercept: 5/2, slope: 1

y-intercept: 12, slope: -3

Finding an Equation of a Line

Find the equation for the line that contains points (2, 4) & (5, -2)

$y = mx + b$ **Find the slope

$y = -2x + b$ **Plugged in the slope

$4 = -2(2) + b$ **Plugged in one ordered pair

$8 = b$ **Solve for b

$$y = -2x + 8$$