Slope-Intercept Form of a Line

Preliminaries and Objectives

Preliminaries
- Slope
- Intercepts
- Cartesian Coordinate System
- Recursion

Objectives
- Given the graph of a line, write the equation of the line
- Given the slope and y-intercept of a line, write the equation of the line
- Given the slope-intercept equation of a line, graph the line

Slope-Intercept Form

\[ m = \text{slope} \quad b = \text{y-intercept} \]

The graph goes through the point \((0, b)\)

\[ y = mx + b \]

Example 2

Write the equation of a line whose slope, \(m = \frac{2}{3}\), and whose y-intercept, \(b = -2\)
Example 3

Write the equation of the line graphed below:

Recap

\[ m = \text{slope} \]
\[ b = \text{y-intercept} \]

Slope-Intercept Form of a Line

\[ y = mx + b \]

Example 4

Write the equation of the line graphed below:

\[ y = -\frac{3}{5}x + 5 \]

Graph the line \( y = \frac{3}{4}x - 3 \)
Recap

\[ m = \text{slope} \]
\[ b = \text{y-intercept} \]

Slope-Intercept Form of a Line

\[ y = mx + b \]