Slope-Intercept Form of a Line

University of Minnesota

Preliminaries and Objectives

Preliminaries

- Slope
- Intercepts
- Cartesian Coordinate System
- Recursion

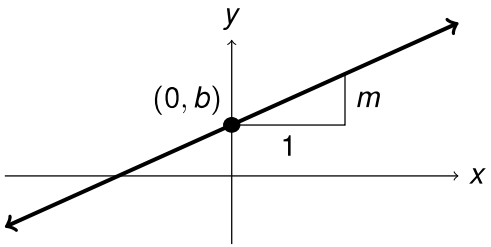
Objectives

- 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

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

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



Slope-Intercept Form of a Line

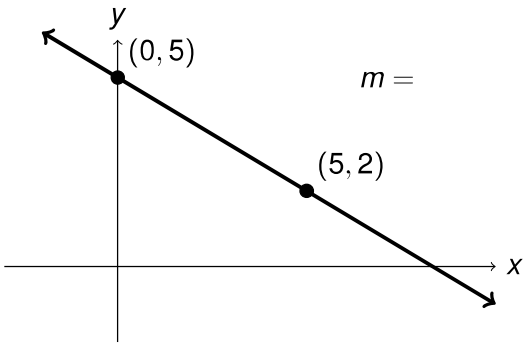
$$y = mx + b$$

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:



$m =$

Recap

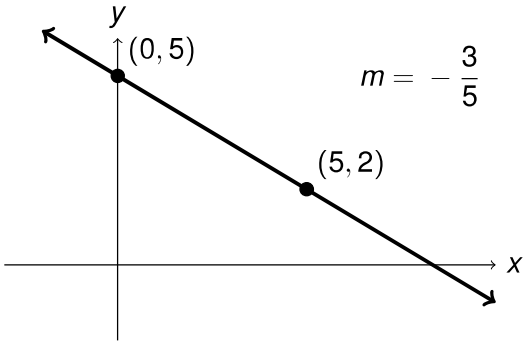
m = slope
b = y-intercept

Slope-Intercept Form of a Line

$$y = mx + b$$

Example 3

Write the equation of the line graphed below:

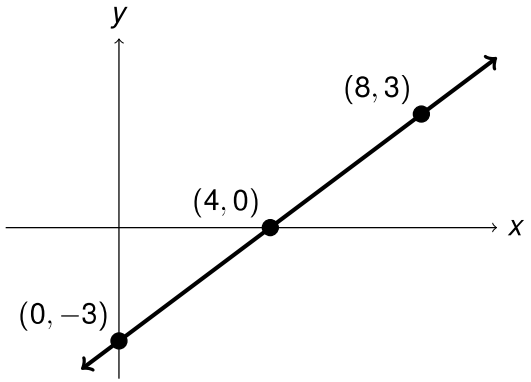


$m = -\frac{3}{5}$

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

Example 4

Graph the line $y = \frac{3}{4}x - 3$



Recap

m = slope
b = y-intercept

Slope-Intercept Form of a Line

$$y = mx + b$$