

## Slope-Intercept Form of a Line



## Preliminaries and Objectives

Preliminaries

- Slope
- Intercepts
- Cartesian Coordinate System
- Recursion

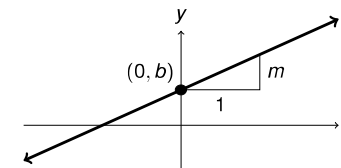
Objectives

- 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

$m = \text{slope}$      $b = \text{y-intercept}$

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



### Slope-Intercept Form of a Line

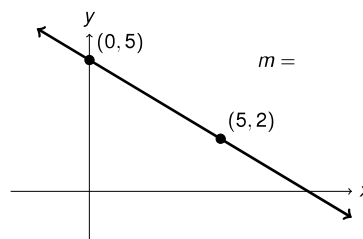
$$y = mx + b$$

## 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:



## Recap

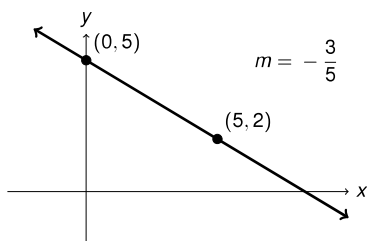
$m = \text{slope}$   
 $b = \text{y-intercept}$

### Slope-Intercept Form of a Line

$$y = mx + b$$

## Example 3

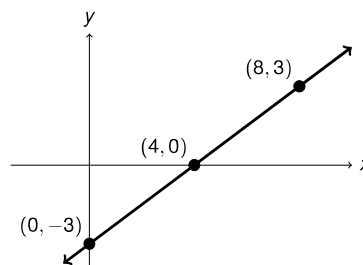
Write the equation of the line graphed below:



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

## Example 4

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



## Recap

$m = \text{slope}$   
 $b = \text{y-intercept}$

### Slope-Intercept Form of a Line

$$y = mx + b$$