

# Precalculus

## 1-03 Linear Equations in Two Variables

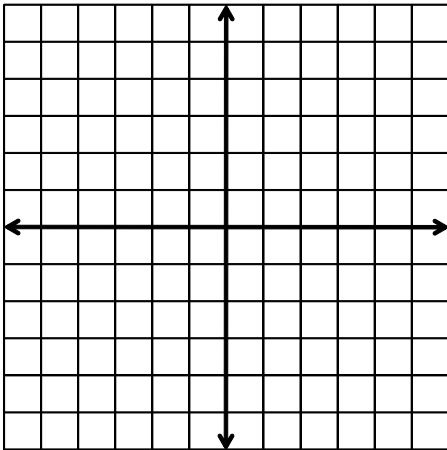
### Slope-intercept form

- $y = mx + b$ 
  - $m =$  \_\_\_\_\_ (rate of change)
  - $(0, b) =$  \_\_\_\_\_
- $y = b \rightarrow$  \_\_\_\_\_ line
- $x = a \rightarrow$  \_\_\_\_\_ line

### To graph a line (shortcut)

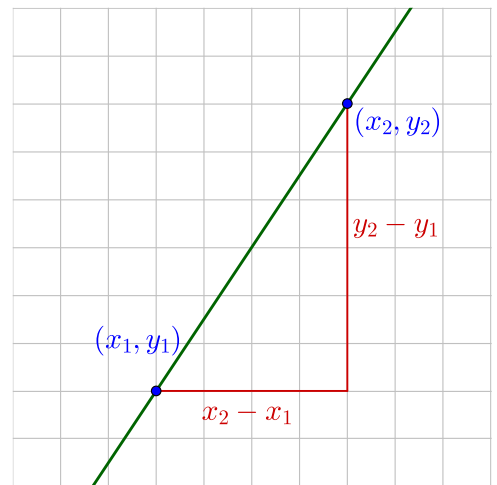
1. Plot \_\_\_\_\_
2. Follow the \_\_\_\_\_ to get a couple more points
3. Draw a \_\_\_\_\_ through the points

Find the slope and y-int and graph  $y = 3x - 4$



### Slope

- $\text{slope} = \frac{\text{rise}}{\text{run}}$
- $m = \frac{y_2 - y_1}{x_2 - x_1}$
- If slope is
  - $m > 0 \rightarrow$  \_\_\_\_\_
  - $m = 0 \rightarrow$  \_\_\_\_\_
  - $m < 0 \rightarrow$  \_\_\_\_\_
  - $m$  undefined  $\rightarrow$  \_\_\_\_\_



Find the slope of the line passing through  $(-3, -2)$  and  $(1, 6)$

### Write Linear Equations

1. Find \_\_\_\_\_ ( $m$ )
2. Find a \_\_\_\_\_ on the line  $(x_1, y_1)$
3. Use \_\_\_\_\_ form  $y - y_1 = m(x - x_1)$

Find slope-intercept form of the line passing through  $(2, 4)$  with  $m = 3$ .

### Parallel and Perpendicular

- Parallel  $\rightarrow$  \_\_\_\_\_ slope
- Perpendicular  $\rightarrow$  slopes are \_\_\_\_\_
  - $m_1 \cdot m_2 = -1$

Find the equation of the line passing through  $(2, 1)$  and perpendicular to  $4x - 2y = 3$ .