

7.2 - Finding the Slope from an Equation

Objective: Students will be able to find the slope of a line from a linear equation

Equations of a line: Slope - Intercept Form

$$y = mx + b$$

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

Determine the slope of the line

$$y = 2x + 5$$

$$m = \underline{\quad} \quad b = \underline{\quad}$$

Determine the slope of the line

$$4y = 6x + 20$$

1. Put into $y = mx + b$ form
2. State the slope

$$m = \underline{\quad}$$

Determine the slope of the line

$$4x + 2y = 6$$

1. Put into $y = mx + b$ form
2. State the slope

$$m = \underline{\quad}$$

Determine the slope of the line

$$8x - 10y = 20$$

1. Put into $y = mx + b$ form
2. State the slope

$$m = \underline{\quad}$$

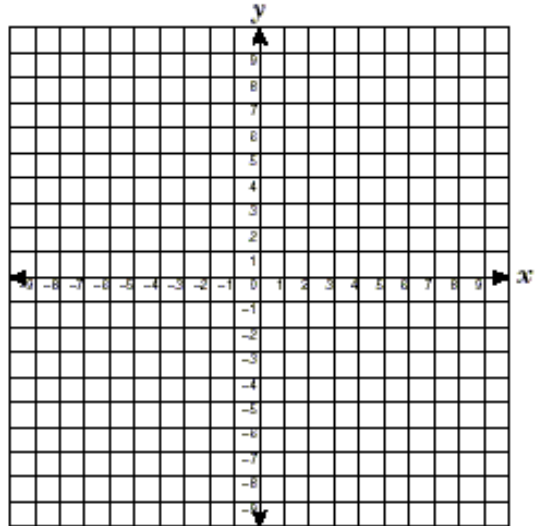
Graphing Lines Using Slope - Intercept Form

Graph the line below

$$y = \frac{1}{3}x + 4$$

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

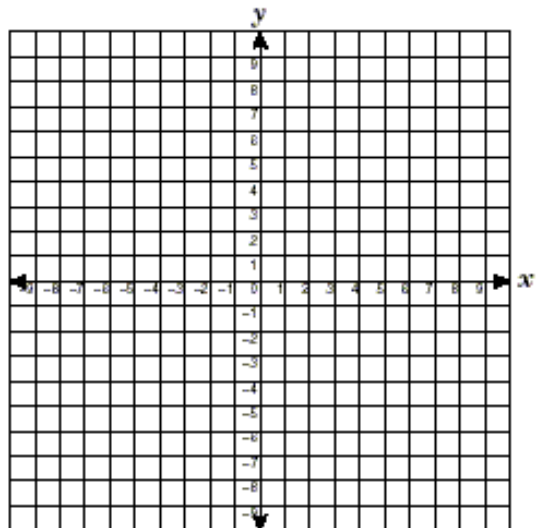
- Step 1: Identify Slope and y - intercept
- Step 2: Plot y - intercept on graph
- Step 3: Use the next point (remember, RISE over RUN)
- Step 4: Draw line through both points



Graph the line below

Must put into Slope - Intercept Form!

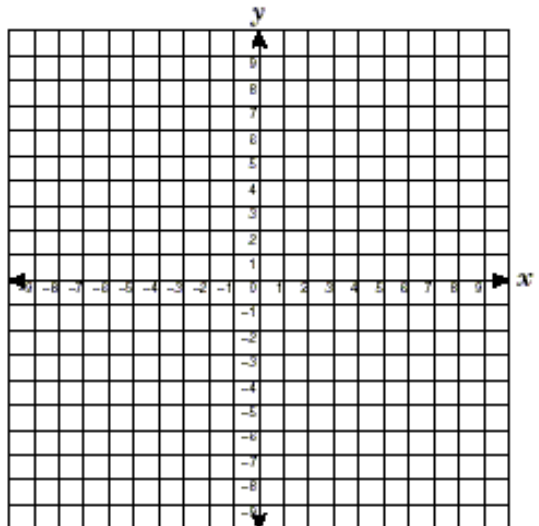
$$2x + 3y = -12$$



Graph the line below

Must put into Slope - Intercept Form!

$$6y - 8x = -24$$



Independent Practice

Determine the slope of the line $y = 5x + 10$

Determine the slope of the line $y = -12x + 10$

Easy

What is the slope of a line represented by the equation $2y = x - 4$?

What is the slope of the line whose equation is $2y = 5x + 4$?

Medium

What is the slope of the line represented by the equation $4x + 3y = 7$?

What is the slope of the line whose equation is $3x - 7y = 9$?

Hard

Find the pair of equations with the same slope

(1) $-15y - 20x = 2$

(2) $3y = 4x + 2$

(3) $-20x + 15y = 2$

[A] (1) and (2) [B] (1) and (3)

[C] (2) and (3)

[D] There are no parallel lines.

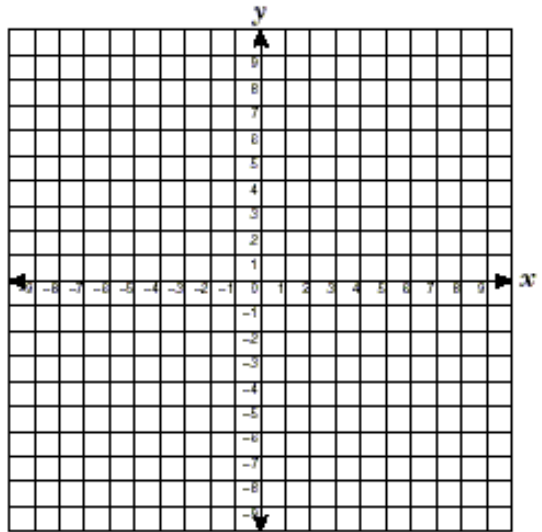
Mastery Level

Graph the following lines

$$y = 2x - 3$$

State the slope:

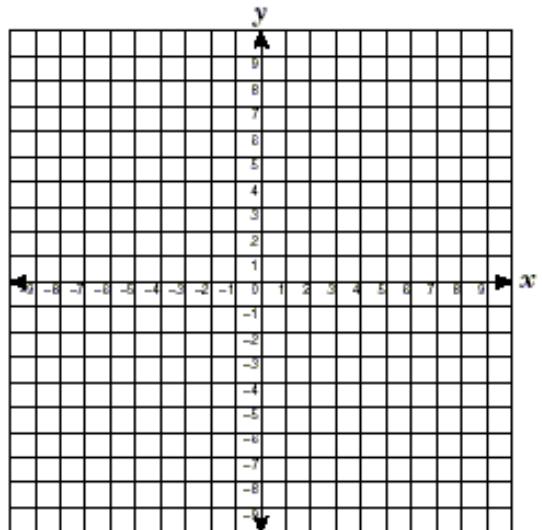
State the y - intercept:



$$2x - 6y = 12$$

State the slope:

State the y - intercept:



$$4y - 6x = 4$$

State the slope:

State the y - intercept:

