

Name: _____

Date: _____

Learning Goal 6.1

Calculating the slope of the line and

- Using the slope to graph a line, and
- Applying the slope to parallel and perpendicular lines.

Warmup State the reciprocal of each of the following:

- a. $\frac{4}{5}$ b. 3 c. $-\frac{5}{3}$ d. $-\frac{1}{16}$

Define

Parallel Lines	
Perpendicular Lines	

Investigation On a separate sheet of graph paper:

- a. Through the point (3,5) draw a line with a slope of:

$$\frac{3}{2}$$

- b. Through the point (3,5) draw a line with a slope of:

$$-\frac{2}{3}$$

- c. Through the point (-1, 3) draw a line with the slope of:

$$\frac{3}{2}$$

$$\text{slope} = \frac{\text{rise}}{\text{run}}$$

$$\frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$$

What do you notice about the relationship between the lines you drew?

Example Complete the following table:

Slope	Slope of a Perpendicular Line	Slope of Parallel Line
$\frac{4}{5}$		
$-\frac{3}{7}$		
-6		
0 (zero)		
undefined		

Example On the graph paper provided

- Draw a line through (-5,-7) with a slope of $-\frac{5}{3}$.
- Draw a line through (-5,-7) that is perpendicular to the line drawn in part a.
- Draw a line through (3, 4) that is parallel to the line drawn in part a.

To assist with your assignment!



