



Lesson Objectives (p. 182):

Vocabulary

1. Rise (p. 182): _____

2. Run (p. 182): _____

3. Slope (p. 182): _____

Key Concepts

4. Slope of a Line (p. 182):

DEFINITION	EXAMPLE



Lesson Objectives (p. 182):

find the slope of a line; use slope to identify parallel and perpendicular lines.

Vocabulary

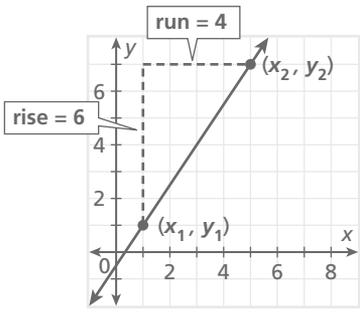
1. Rise (p. 182): the difference in the y-values of two points on a line.

2. Run (p. 182): the difference in the x-value of two points on a line.

3. Slope (p. 182): the ratio of the rise to the run.

Key Concepts

4. Slope of a Line (p. 182):

DEFINITION	EXAMPLE
The rise is the difference in the y-values of two points on a line.	 <p style="text-align: center;">slope = $\frac{6}{4} = \frac{3}{2}$</p>
The run is the difference in the x-values of two points on a line.	
<p>The slope of a line is the ratio of the rise to run. If (x_1, y_1) and (x_2, y_2) are any two points on a line, the slope of the line is</p> $m = \frac{y_2 - y_1}{x_2 - x_1}$	

5. Slopes of Parallel and Perpendicular Lines (p. 184):

<p>3-5-1 Parallel Lines Theorem</p> <p>3-5-2 Perpendicular Lines Theorem</p>

6. Get Organized Complete the graphic organizer. (p. 185).

PAIRS OF LINES		
TYPE	SLOPES	EXAMPLE
Parallel		
Perpendicular		

5. Slopes of Parallel and Perpendicular Lines (p. 184):

3-5-1 Parallel Lines Theorem

In a coordinate plane, two nonvertical lines are parallel if and only if they have the same slope. Any two vertical lines are parallel.

3-5-2 Perpendicular Lines Theorem

In a coordinate plane, two nonvertical lines are perpendicular if and only if the product of their slopes is -1 . Vertical and horizontal lines are perpendicular.

6. **Get Organized** Complete the graphic organizer. (p. 185).

PAIRS OF LINES		
TYPE	SLOPES	EXAMPLE
Parallel	Always have the same slope.	$y = 2x + 5$ $y = 2x - 3$
Perpendicular	opposite reciprocals	$y = 2x + 5$ $y = -\frac{1}{2}x - 3$