

# Lines: Lesson 2

## Slopes of Lines I: Notes

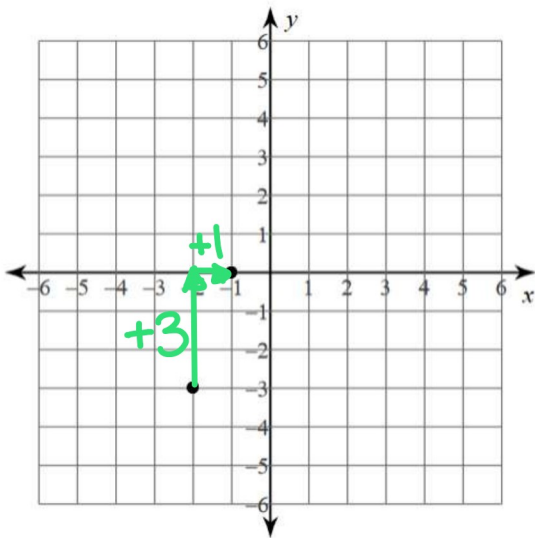
Name: \_\_\_\_\_

Examples of slope: ski slope, slide, etc.

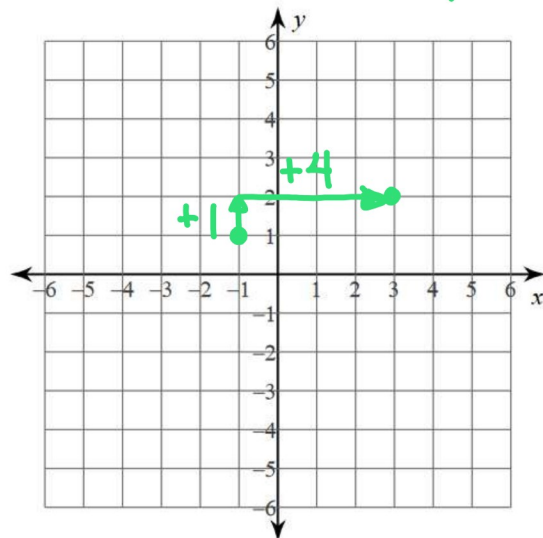
Slope = rise/run

Find the slope between:

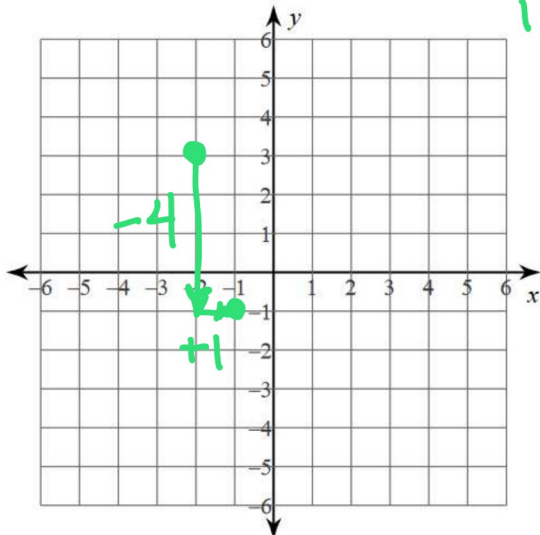
$(-2, -3)$  and  $(-1, 0) = \frac{3}{1} = 3$



$(-1, 1)$  and  $(3, 2) = \frac{1}{4}$

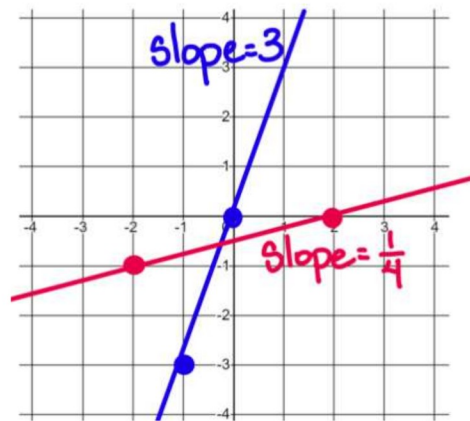


$(-2, 3)$  and  $(-1, -1) = -\frac{4}{1} = -4$

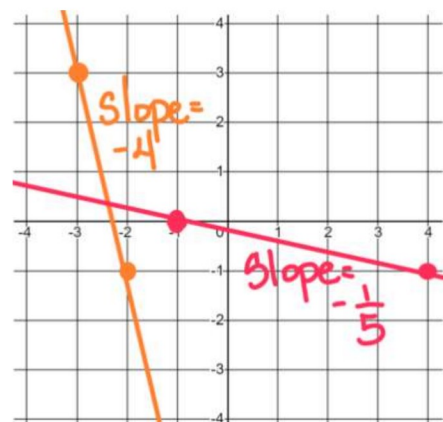


### Characteristics:

1. Positive slopes go up from left to right.
2. The bigger the slope, the steeper the line.  
Slopes closer to 0 have flatter lines.



3. Negative slopes go down from left to right.
4. The smaller (more negative) the slope, the steeper the line.  
Slopes closer to zero have flatter lines.



### Formula for Slope:

$$\text{Slope} = \frac{(y_2 - y_1)}{(x_2 - x_1)} \quad (x_1, y_1) \quad (x_2, y_2)$$

Slope between

$(-4, 2)$  and  $(-2, 6)$   
 $x_1 y_1$      $x_2 y_2$

$$\frac{6-2}{-2-(-4)} = \frac{4}{-2+4} =$$

$$\frac{4}{2} = \textcircled{2}$$

$$\frac{-7-(-5)}{-2-3} = \frac{-7+5}{-5} = \frac{-2}{-5} =$$

$(3, -5)$  and  $(-2, -7)$   
 $x_1 y_1$      $x_2 y_2$

$$\textcircled{\frac{2}{5}}$$