SLOPE AND RATE OF CHANGE

RATE OF CHANGE

- The rate of change is how much the y changes compared to how much the x changes.
- Finding the rate of change:

- $\frac{\text{change in y}}{\text{change in x}}$

Example

- The number of students at Munchkin Day Care for 2008, 2009, 2010 and 2011 is 34, 34, 35, 41.
- The rate of change over the entire period is

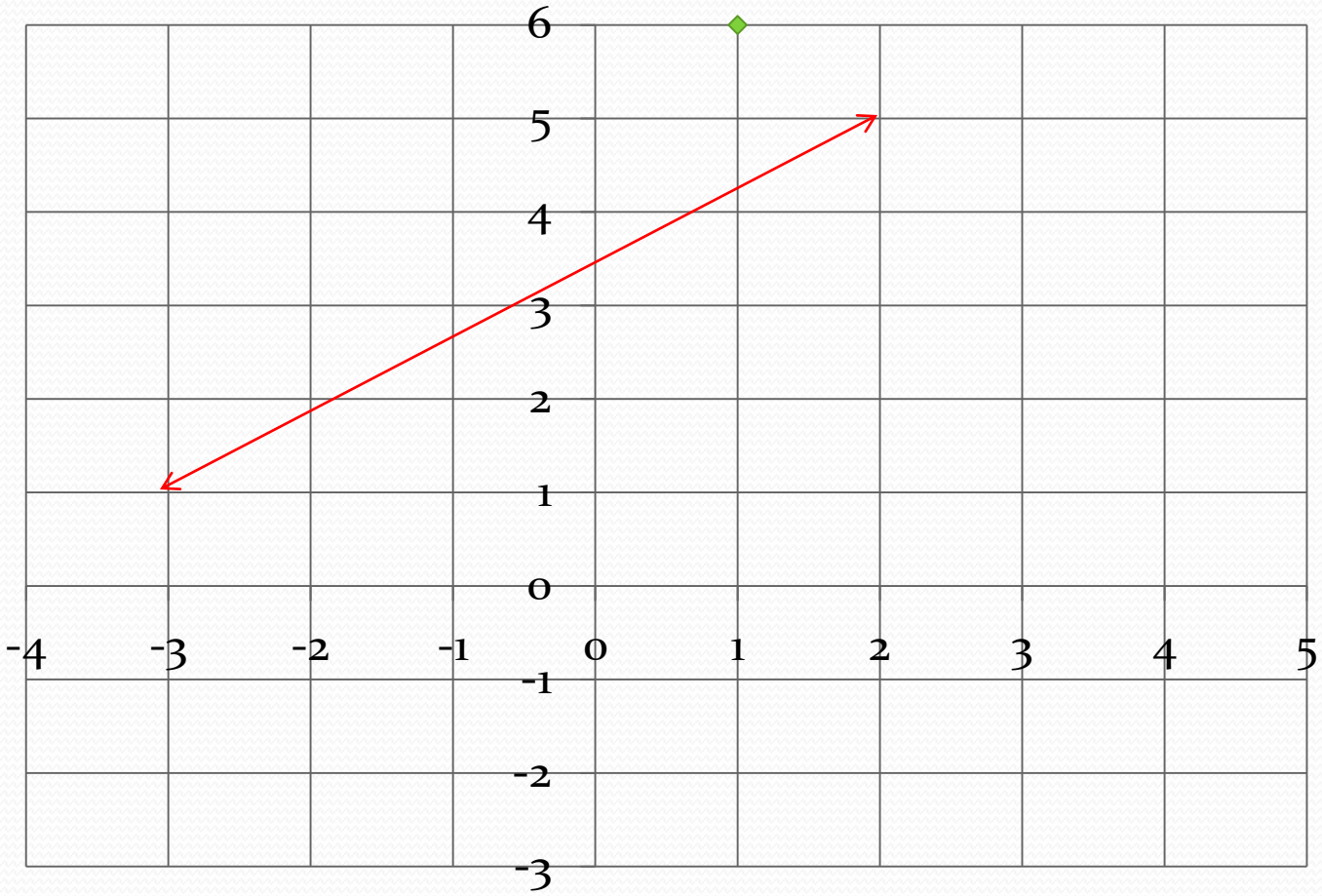
$$\frac{41-34}{2011-2008} = \frac{7}{3}$$

SLOPE

- The slope of a line is the ratio of the rise (change in y) over the run (change in x).

- To find the slope pick two points on a line then subtract the change in the y-axis over the change in the x-axis.

EXAMPLE



FINDING THE SLOPE

- Pick two points. Let's use (2, 5) and (-3, 1).
- Remember: $\frac{\text{change in y}}{\text{change in x}}$

$$\frac{5 - 1}{2 - (-3)} = \frac{4}{5}$$

This is the slope.

THINGS TO KEEP IN MIND

- You may pick any two points on the line.
- Order is very important. For example, let's say you pick the points (3, 2) and (4, 8).
- $\frac{8-2}{4-3} = \frac{6}{1}$ OR $\frac{2-8}{3-4} = \frac{-6}{-1} = \frac{6}{1}$
- Both are correct, just be careful with the order and the signs!