Lessson: Slope & Rate of Change

Definitions:

1. Rate of Change – the relationship between two quantities that are changing.

 \*\*if on quantity depends on the other then the following is true:

 rate of change = change in the dependent

 change in the independent

2. Slope- a number that describes the steepness of a line. Slope is a rate of change.

 Slope(m) = vertical change

 horizontal change

VIC #1 If you have a line on a graph and you want to know the slope, us the following:

 RISE

 RUN

Finding Slope when given to points (ordered pairs)

The algebraic formula for finding slope is:

Where (x , y ) and (x , y ) are coordinate points and (x – x )  0

VIC #2 The x-coordinate you use first in the denominator must belong to the same ordered pair as the y-coordinate you sue first in the numerator.

Examples: Find the slope of a line passing through the given points.

3. A( -2, 1) B (5, 7) 4. (0, -1) (1,-6)

Horizontal and Vertical Lines

Examples:

 5)The slope of a horizontal line is always **zero (0).**

6) The slope of vertical line is always **undefined**.

Each pair of points lies on a line with the given information. Find the missing x or y value.

1. (2, 4) (x, 8) m = 2 8. (-4, y) (2, 4y) m=6

Summary of slopes of lines.

positive negative

zero undefined