Math 1 5.1 Slope and Rate of Change Unit 2 Day 3

SLOPE = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_

**Example 1:** What is the slope of each line?

1.
2.

**Example 2:** What is the slope of each line?

1.
2.

1. In part (A) of example 2, pick two new points on the line to find the slope. Do you get the same slope?

Slope Formula= \_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Where $x\_{2}-x\_{1}\ne 0$

***IMPORTANT!*** The x-coordinate you use first in the denominator must belong to the same ordered pair as the y-coordinate you use in the numerator.

**Example 3:** Find the slope for each of the following.

1. What is the slope of the line through (-1, 0) and (3, -2)?
2. What is the slope of the line through (1, 3) and (4, -1)?

**Example 4:** Horizontal and Vertical Lines

1. What is the slope of the following graph?
2. What is the slope of the following graph?



**Concept Summary: All About Slope**

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| http://www.shodor.org/media/Y/2/N/lNjU2YzVmZjJhNzMzY2RhNTFiMjc0YjgwMzVlMDQ.gif**Positive Slope:** A line with positive slope that slants upward from left to right. | **http://www.shodor.org/media/Y/2/N/lNjU2YzVmZjJhNzMzY2RhNTFiMjc0YjgwMzVlMDQ.gif****Negative Slope:** A line with negative slope that slants downward from left to right. |
| http://www.shodor.org/media/Y/2/N/lNjU2YzVmZjJhNzMzY2RhNTFiMjc0YjgwMzVlMDQ.gif**Horizontal Slope:** A line with a slope of zero is horizontal. | http://www.shodor.org/media/Y/2/N/lNjU2YzVmZjJhNzMzY2RhNTFiMjc0YjgwMzVlMDQ.gif**Undefined Slope:** A line with an undefined slope is vertical |

**Classwork:** Complete each of the following in class for credit.

1. What is the slope of the line?
2. What is the slope of the line through (-1, 2) and (2, -3)?
3. What characteristic of a graph represents the rate of change? Explain.
4. Give an example of a real-world situation that you can model with a horizontal line. What is the rate of change for the situation? Explain.
5. How does finding a lines slope by counting units of vertical and horizontal change on a graph compare with finding it using the slope formula?



1. A student calculated the slope of the line to be 2. Explain the mistake. What is the correct slope?