

Key

Math 1

Name _____

Lesson 1-4 Average Rate of Change 2

Date _____

Learning Goals:

- I can define and calculate the average rate of change of a function and explain the connection between average rate of change and slope.

1. Use the graph to the right to answer the questions below.

a. Describe the pattern of change in the graph between each pair of points.

A-B: Increases then decreases

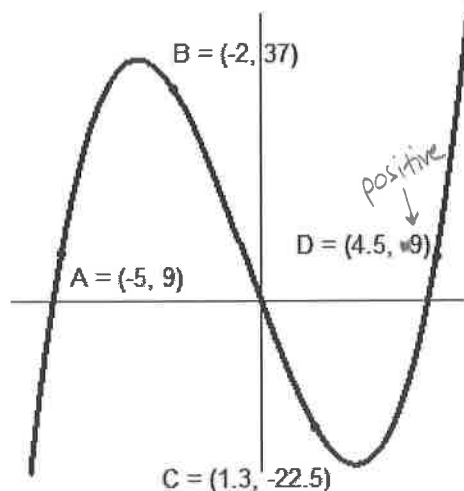
Overall: Increases

A-C: Increases then decreases

Overall: decreases

A-D: Increases, decreases, then increases again.

Overall: same amount of increase + decrease



b. Calculate the average rate of change between the following pairs of points.

$$\text{A-B: } = \frac{37-9}{-2-(-5)} = \frac{26}{3} = \boxed{8.6}$$

$$\text{A-C: } = \frac{-22.5-9}{1.3-(-5)} = \boxed{-5}$$

$$\text{A-D: } = \frac{9-9}{4.5-(-5)} = \frac{0}{9.5} = \boxed{0}$$

c. How do your answers to Part b help you explain your answers to Part a?

Positive AROC means overall increase, negative means overall decrease, 0 means same increase + decrease

d. What relationship exists between the average rate of change and the pattern of the graph between those two points?

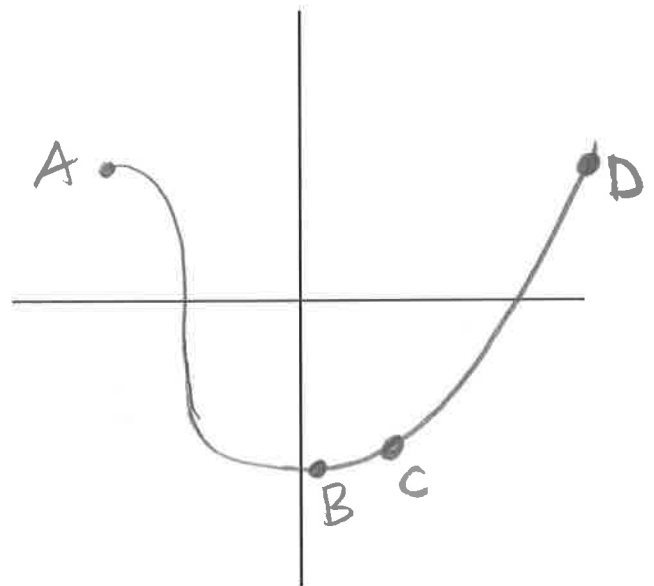
See answer to Part c.

e. Suppose you found that the average rate of change between two points on a graph was -7. What does this tell you about the pattern of the graph between those two points?

The second point is lower than the first one. There was an overall decrease between the points.

2. Sketch a graph that matches the characteristics of the average rates of change given below.

Between points A & B: Negative rate
Between points B & C: Small, positive rate
Between Points C & D: Large, positive rate



3. Sketch a graph that matches the characteristics of the average rates of change given below.

Between points Q & R: Large positive rate
Between points R & S: Small, negative rate
Between Points S & T: Small, positive rate
Between points T & U: Large, negative rate

