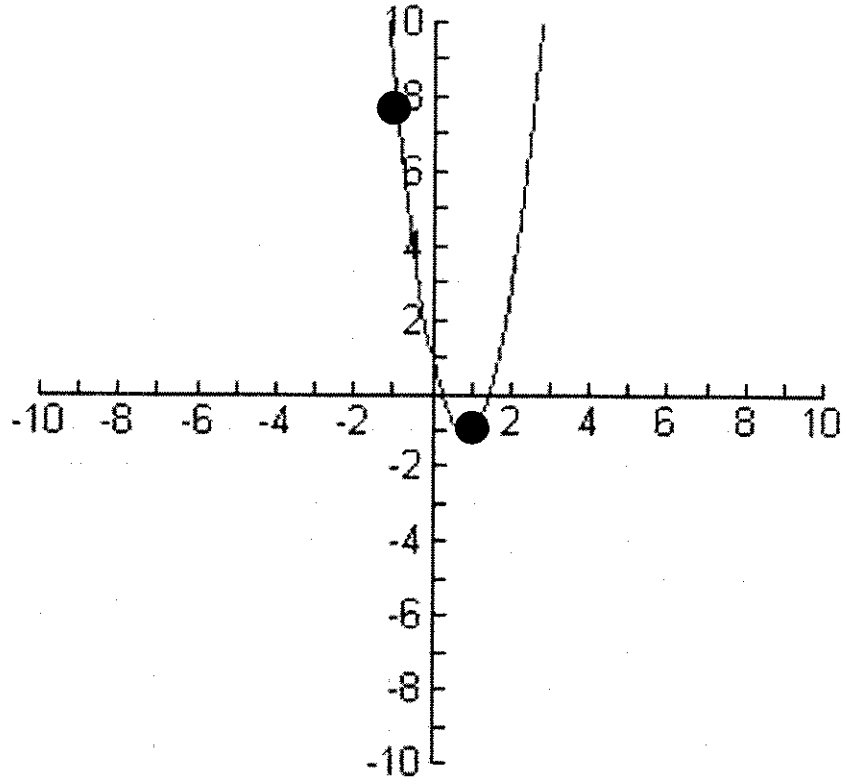
Rate of change: (slope)

1. Use your 1st x coord. to find the corresponding y on the graph.
2. Use your 2nd x coord to find the corresponding y on the graph.
3. Now you should have 2 points
(x_1, y_1) (x_2, y_2)

4. Put your two points into the slope formula and that's the Rate of Change!

$$\frac{y_2 - y_1}{x_2 - x_1}$$



Ex: Find the rate of change for

$$-1 \le x \le 1$$

$$(-1, 8)\ (1, -1)$$

$$\frac{-1-8}{1--1} = \frac{-9}{2}$$

Average Rate of Change Reveiw
MM1A1g.Explore/Interpret Rate of Change

Name _____

Find the slope of the line given two points.

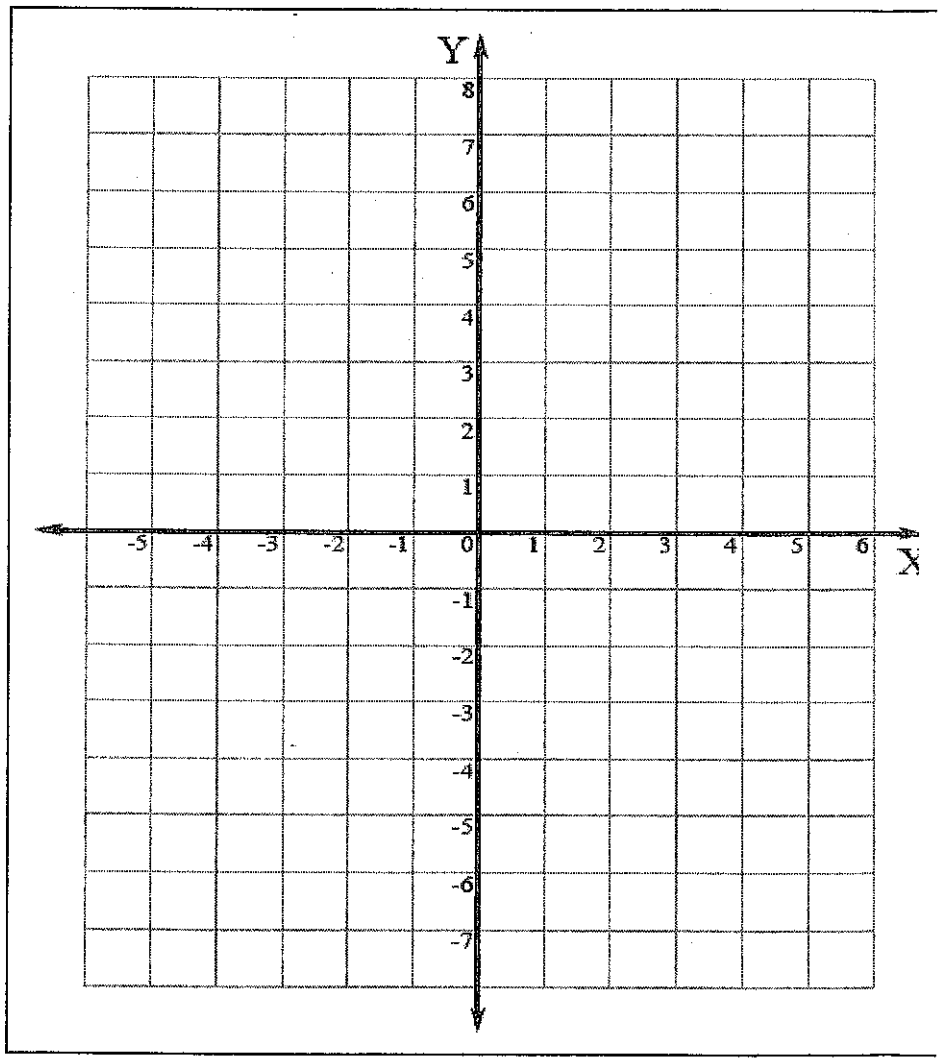
1) (4,5) (6,7)

2) (-2, -8) (6, -10)

3) **a) Complete a table for the function** $f(x) = x^2 - 5$

b) Then graph the function.

x	$x^2 - 5$	f(x)	(x, f(x))
-2			
-1			
0			
1			
2			
3			



Use the graph of the function to answer the following questions.
(use slope formula)

c) What is the average rate of change from x = 0 to x = 1?

d) What is the average rate of change from x = 1 to x = 2?

e) What is the average rate of change from x = 2 to x = 3?

f) Why isn't the average rate of change constant for this function?

Rate of Change Name_____

The following table represents the time and distance Mrs. Bechtold ran.

Time (hours)	.5	1	2	2.5	3	4	4.5	5	5.5
Distance (miles)	1	3	5	6	8	9	9.5	11	12

1. Find the rate of change between hours 2 and 4.

   a) 2 b) 3 c) -1 d) 4

2. Find the rate of change between hours 4.5 and 5.

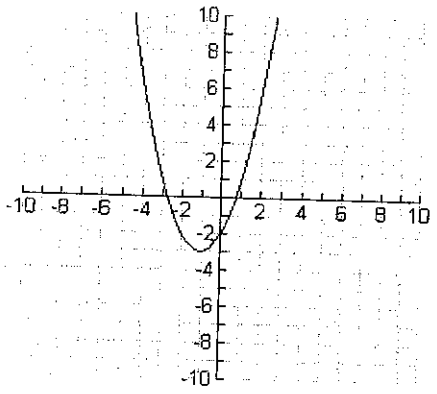
   a) 1.5 b) -2 c) 3 d) 6

3. If you graphed this would you have a linear function? Why or why not?

   a) Yes, this would be a linear function because the rate of change is the same.
   b) No, this would not be a linear function because the rates of change are different.
   c) Yes, this would be a linear function because the rates of change are different.
   d) No, this would not be a linear function because the rates of change are the same.

Use the graph below to answer questions 4 – 7.

4. Given the following graph, find the rate of change from $x = 2$ and $x = -1$.



a) -8/3 b) 8/3 c) 3/8 d) -3/8

5. What is the rate of change from $x = 0$ and $x = 2$?

a) 7/-2 b) 2/7 c) -2/7 d) 7/2

6. Is the function above a linear function? Why or why not?

a) Yes, it is linear because the rate of change is constant
b) Yes, it is linear because the rate of change is different
c) No, it is not a linear function because the rate of change is different
d) No, it is not a linear function because the rate of change is constant