

Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Class: \_\_\_\_\_

Algebra  
Unit 6  
HW 6-3

1) If the number of people with a cold is 3 today and doubles each day, fill in the following chart to show how many people are sick each day:

$d$	0	1	2	3	4	5
$N$	3	6				

2) Is the data in #1 linear? Why or why not?

3) What is the average rate of change between  $d = 1$  and  $d = 5$ ?

4) You are 160 feet away from a building. You would halfway to the building each minute. Fill in the following chart to show your distance from the building. Would you ever get to the building?

$n$	0	1	2	3	4
$D$ (ft)	160	80			

5) Using the function  $f(x) = 8(2)^x$  sketch a graph on the domain  $-2 \leq x \leq 4$

6)  $g(x) = 54\left(\frac{1}{3}\right)^x$  Find the average rate of change from  $x = -5$  to  $x = -1$

7) Graph  $f(x) = 10(2)^x$  on the interval  $-3 \leq x \leq 3$

8) What would the y intercept of the following equation be?

$$y = 50(1.04)^x$$