Name: _____ Algebra
Date: _____ Unit 6
Class: _____ HW 6-8

1) The following data represents a sequence represented by the letter a:

$4, 8, 16, 32, 64, 128, 256$.

Using this data, what would $(a_1)^2$ be?

2) Using the data in #1, what would a(4) be?

3) Using the following recursive sequence, list the first 6 terms:

$b_1 = 7$ and $b_i = b_{i-1} + 4$

4) Using your information from #3, is there a constant rate of change for this data? If so, write an equation that could replace this recursive sequence.

5) A special sequence is defined as follows:

$a(1) = 1, a(2) = 1$ and $a(n) = a(n-1) + a(n-2)$

Use this sequence to find the first 7 terms of this sequence. Is there a constant rate of change?

6) You are training for a marathon. You run 5 miles per workout for the first month. Each month you add 4 miles onto your workouts. Create a table giving the values from m = 0 (m representing months) to m = 6. Create a recursive sequence for this data.

7) Is the following data an arithmetic sequence?

5, 10, 20, 40, _____, 160

8) Given a sequence defined by the explicit formula $g(n)=15n+35$, write out the first four terms. Then, create a recursive definition and graph the sequence on the interval $1 \le n \le 7$.

9) Evin is building a tower out of paper cups. In each row (counting from the floor up), there are two less cups than the row below it. The first row has 26 cups in it.

Create a recursive sequence for this data.