

Name_____

Date_____

Advanced Algebra

Unit 1: Sequences and Series

Assignment #3

Use your calculator to “click it out” and find the 10th term of the following geometric terms.

1)
$$\begin{cases} U_0 = 3 \\ U_n = 1.8 * U_{(n-1)} \\ n \geq 1 \end{cases}$$

2)
$$\begin{cases} U_0 = 2 \\ U_n = 3 * U_{(n-1)} \\ n \geq 1 \end{cases}$$

3)
$$\begin{cases} U_0 = 12 \\ U_n = .6 * U_{(n-1)} \\ n \geq 1 \end{cases}$$

4)
$$\begin{cases} U_0 = 4 \\ U_n = 3 * U_{(n-1)} \\ n \geq 1 \end{cases}$$

Write a direct formula in the form $y=U_0*(r)^x$ for the given geometric sequences.

5) 3,9,27

Direct Formula:

What is the 8th term?

6) 4,20,100

Direct Formula

What is the 6th term?

7) 200,160,128

What is the 20th term?

- 8) After knee surgery, your trainer tell you to return to your jogging program slowly. He suggests jogging for 12 minutes each day for the first week. Each week thereafter he suggests you increase that time by 6 minutes. How many weeks will it be before you are up to jogging 60 minutes per day?
- 9) Joan made \$35,000 during the first year of her job. Each year she receives a 10% raise.
- Write a recursive formula for this scenario.
 - Write the direct formula for this scenario.
 - How much money did she earn in her 10th year on the job?