9-10 and 9-11

Lesson 4 Scott’s Workout Page 19-21 (recursive and explicit function notation)

Arithmetic Sequences : A sequence of terms that have a common \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_between them.

Formula: $a$n =$ a$1 + (n – 1) •d where $a$1 is the first number in the sequence and d is the common difference.

Are the following sequences are arithmetic or neither? If they are arithmetic state the value of d.

1. 6, 12, 18, 24…… Type\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d\_\_\_\_\_\_\_\_

2. 6, 11, 17, ……. Type\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d\_\_\_\_\_\_\_\_

For the following sequences, find $a$1 (beginningterm) and d (common difference) and state the formula for the general term. Don’t forget to simplify!

3. -10, -4, 2, 8, 14….. $a$1= \_\_\_\_\_\_\_ d = \_\_\_\_\_\_\_ Recursive Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Explicit Formula:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. 10, 8, 6, 4,….. $a$1= \_\_\_\_\_\_\_ d = \_\_\_\_\_\_\_ Recursive Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Explicit Formula:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. 36, 31, 26, 21….. $ a$1= \_\_\_\_\_\_\_ d = \_\_\_\_\_\_\_ Recursive Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Explicit Formula:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. 10, 20, 30, 40,…. $a$1= \_\_\_\_\_\_\_ d = \_\_\_\_\_\_\_ Recursive Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Explicit Formula:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. -10, -8, -6, -4,… $ a$1= \_\_\_\_\_\_\_ d = \_\_\_\_\_\_\_ Recursive Formula: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Explicit Formula:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Exit Ticket 1.3

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_

Create a pattern(patron) and write a mathematical expression to describe this pattern. Continue the pattern for step 5. How many will there be at step 30?

Step 1 Step 2 Step3 Step4 Step 5 ………… Step 30

1. Evaluate $f\left(n\right)=n+1$ and $g\left(n\right)=3n^{2}$ for the following:

$$a. f\left(3\right)$$

b. $f\left(-1\right)$

c. $g\left(2\right)$

$$ d. g(-4)$$