

Sequences Practice Worksheet

Name: _____ Date: _____

Arithmetic Sequences: A sequence of terms that have a common _____ between them.

Recursive Formula:

Explicit Formula:

Directions: For the sequences below, find the next three terms in the sequence. Then, determine if they are arithmetic.

1. For each list of numbers, determine the next three numbers in the list.

a. 1, 2, 3, 4, _____, _____, _____

f. 0, 1, 4, 9, 16, 25, _____, _____, _____

b. 7, 9, 11, 13, 15, _____, _____, _____

g. 2, 3.5, 5, 6.5, 8, 9.5, _____, _____, _____

c. 10, 7, 4, 1, -2, _____, _____, _____

h. 17.5, 13.2, 8.9, 4.6, 0.3, _____, _____, _____

d. 2, 4, 7, 11, 16, _____, _____, _____

i. 2, 5, 11, 23, 47, _____, _____, _____

e. e. 1, -1, 2, -2, 3, -3, _____, _____, _____

j. 1, 1, 2, 3, 5, 8, _____, _____, _____

Directions: Find the first 5 terms of each sequence.

2. a. $a_1 = 2$
 $a_n = a_{n-1} + 4$

b. $a_1 = -5$
 $a_n = a_{n-1} - 5$

c. $a_1 = 25$
 $a_n = a_{n-1} - 7$

Directions: Write the recursive formula for the sequence. Find the 6th term.

3. a. 11, 8, 5, ...

b. 4, 9, 13, ...

c. 27, 19, 11, ...

d. 6, 12, 18, ...

e. 5, 0, -5, ...

f. -7.1, -5.8, -4.5, ...

Directions: Complete the table by writing the Common Difference and Closed/Explicit Form for each sequence then find the 35th term of each sequence.

Sequence	Common Difference	Closed/Explicit Form	35 th term ($a_{35} =$)
4, 6, 8, 10, 12...			$a_{35} =$
87, 78, 69, 60, 51...			$a_{35} =$
5, 3, 1, -1, -3...			$a_{35} =$
11, 14, 17, 20...			$a_{35} =$
-16, -9, -2, 5...			$a_{35} =$
2, 10, 18, 26, 34...			$a_{35} =$
28, 23, 18, 13...			$a_{35} =$
-7, -2, 3, 8...			$a_{35} =$
6, 1, -4, -9, -14...			$a_{35} =$