

Worksheet 4
Arithmetic Sequences

Name: _____

1. Give an example of an infinite sequence where the first term is -92 and each term increases by 12. List the first 5 terms of the sequence. What is t_8 ?

{ } $t_8 =$ _____

2. Give an example of a finite sequence that has 5 terms and the first term is 6 and each term decreases by 3. List all members of this sequence.

{ }

3. Using $t_1 = 8$, write the first five terms of an arithmetic sequence which has a common difference of:

A) -3 { }

B) 5 { }

4. Using $d = -6$, write the first five terms of an arithmetic sequence in which the first term is:

A) -25 { }

B) 76 { }

5. Use each function given to generate the first 5 terms of each sequence. Show the workings for the first 3 terms.

A) $t_n = -5n + 12$ { }

B) $t_n = 3n - 7$ { }

C) $t_n = 1.4n + 8$ { }\

D) $t_n = -4n + 1.6$ { }

6. Each of the following sequences are arithmetic. Use the formula: $t_n = d(n - 1) + t_1$ to find the equation for the n^{th} term of the arithmetic sequences below. Then find t_{22} and t_{60} .

A) $\{15, 9, 3, -3, -9, \dots\}$

B) $\{-17, -21, -25, -29, -33, \dots\}$

C) $\{-7, -2, 3, 8, 13, \dots\}$

D) $\{22, 28, 34, 40, 46, \dots\}$

E) $\{-12, -20, -28, -36, -44, \dots\}$

F) $\{45, 35, 25, 15, 5, \dots\}$