

## Arithmetic Sequences

Date \_\_\_\_\_ Period \_\_\_\_\_

**Determine if the sequence is arithmetic. If it is, find the common difference.**

1) 35, 32, 29, 26, ...

2) -3, -23, -43, -63, ...

3) -34, -64, -94, -124, ...

4) -30, -40, -50, -60, ...

5) -7, -9, -11, -13, ...

6) 9, 14, 19, 24, ...

**Given the explicit formula for an arithmetic sequence find the first five terms and the term named in the problem.**

7)  $a_n = -11 + 7n$   
Find  $a_{34}$

8)  $a_n = 65 - 100n$   
Find  $a_{39}$

9)  $a_n = -7.1 - 2.1n$   
Find  $a_{27}$

10)  $a_n = \frac{11}{8} + \frac{1}{2}n$   
Find  $a_{23}$

**Given the first term and the common difference of an arithmetic sequence find the first five terms and the explicit formula.**

11)  $a_1 = 28, d = 10$

12)  $a_1 = -38, d = -100$

13)  $a_1 = -34, d = -10$

14)  $a_1 = 35, d = 4$

**Given a term in an arithmetic sequence and the common difference find the first five terms and the explicit formula.**

15)  $a_{38} = -53.2$ ,  $d = -1.1$

16)  $a_{40} = -1191$ ,  $d = -30$

17)  $a_{37} = 249$ ,  $d = 8$

18)  $a_{36} = -276$ ,  $d = -7$

**Given the first term and the common difference of an arithmetic sequence find the recursive formula and the three terms in the sequence after the last one given.**

19)  $a_1 = \frac{3}{5}$ ,  $d = -\frac{1}{3}$

20)  $a_1 = 39$ ,  $d = -5$

21)  $a_1 = 8$ ,  $d = -2$

22)  $a_1 = -9.2$ ,  $d = 0.9$

**Given a term in an arithmetic sequence and the common difference find the recursive formula and the three terms in the sequence after the last one given.**

23)  $a_{21} = -1.4$ ,  $d = 0.6$

24)  $a_{22} = -44$ ,  $d = -2$

25)  $a_{38} = -278$ ,  $d = -8$

26)  $a_{12} = 28.6$ ,  $d = 1.8$

**Given two terms in an arithmetic sequence find the recursive formula.**

27)  $a_{18} = 3362$  and  $a_{38} = 7362$

28)  $a_{18} = 44.3$  and  $a_{33} = 84.8$

29)  $a_{18} = 97$  and  $a_{40} = 229$

30)  $a_{12} = -\frac{43}{8}$  and  $a_{36} = -\frac{139}{8}$