

## Arithmetic Sequences

Find the term named in the problem, the explicit formula, and the recursive formula.

1) 9, 3, -3, -9, ...

Find  $a_{34}$ 

2) -38, 162, 362, 562, ...

Find  $a_{29}$ 

3) -13, -18, -23, -28, ...

Find  $a_{37}$ 

4) 40, 70, 100, 130, ...

Find  $a_{20}$ 

Given a term in an arithmetic sequence and the common difference find the term named in the problem and the explicit formula.

5)  $a_{13} = -75$ ,  $d = -5$

Find  $a_{34}$ 

6)  $a_9 = -107$ ,  $d = -10$

Find  $a_{28}$ 

7)  $a_{29} = 53$ ,  $d = 2$

Find  $a_{32}$ 

8)  $a_{22} = -165$ ,  $d = -6$

Find  $a_{25}$ 

Given two terms in an arithmetic sequence find the term named in the problem and the explicit formula.

9)  $a_{14} = -2570$  and  $a_{36} = -6970$

Find  $a_{24}$ 

10)  $a_{12} = 49$  and  $a_{31} = 106$

Find  $a_{35}$ 

11)  $a_{20} = 91$  and  $a_{30} = 141$

Find  $a_{36}$ 

12)  $a_{14} = 95$  and  $a_{32} = 275$

Find  $a_{25}$

## Answers to Arithmetic Sequences (ID: 1)

1)  $a_{34} = -189$

Explicit:  $a_n = 9 + (n - 1) \cdot -6$

Recursive:  $a_n = a_{n-1} - 6$

$a_1 = 9$

2)  $a_{29} = 5562$

Explicit:  $a_n = -38 + (n - 1) \cdot 200$

Recursive:  $a_n = a_{n-1} + 200$

$a_1 = -38$

3)  $a_{37} = -193$

Explicit:  $a_n = -13 + (n - 1) \cdot -5$

Recursive:  $a_n = a_{n-1} - 5$

$a_1 = -13$

4)  $a_{20} = 610$

Explicit:  $a_n = 40 + (n - 1) \cdot 30$

Recursive:  $a_n = a_{n-1} + 30$

$a_1 = 40$

5)  $a_{34} = -180$

Explicit:  $a_n = -15 + (n - 1) \cdot -5$

6)  $a_{28} = -297$

Explicit:  $a_n = -27 + (n - 1) \cdot -10$

7)  $a_{32} = 59$

Explicit:  $a_n = -3 + (n - 1) \cdot 2$

8)  $a_{25} = -183$

Explicit:  $a_n = -39 + (n - 1) \cdot -6$

9)  $a_{24} = -4570$

Explicit:  $a_n = 30 + (n - 1) \cdot -200$

10)  $a_{35} = 118$

Explicit:  $a_n = 16 + (n - 1) \cdot 3$

11)  $a_{36} = 171$

Explicit:  $a_n = -4 + (n - 1) \cdot 5$

12)  $a_{25} = 205$

Explicit:  $a_n = -35 + (n - 1) \cdot 10$