

# Assignment

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

Find the common difference, the 52nd term, the explicit formula, and the recursive formula.

1)  $-28, -20, -12, -4, \dots$   
 $-28 + 8n - 8$   
 $d = 8$   
 $a_{52} = 380$   
 $a_n = 8n - 36$   
 $a_n = a_{n-1} + 8$

2)  $29, -71, -171, -271, \dots$   
 $29 - 100n + 100$   
 $d = -100$   
 $a_{52} = -2771$   
 $a_n = -100n + 129$   
 $a_n = a_{n-1} - 100$

Find the common ratio, the 8th term, the explicit formula, and the recursive formula.

3)  $4, -16, 64, -256, \dots$   
 $a_8 = -65,536$   
 $a_n = 4(-4)^{n-1}$   
 $a_n = -4a_{n-1}$   
 $r = -4$

4)  $-2, 6, -18, 54, \dots$   
 $a_8 = 32,768$   
 $a_n = -2(-4)^{n-1}$   
 $a_n = -4a_{n-1}$   
 $r = -4$

Find the common difference, the 52nd term, the explicit formula, and the recursive formula.

5)  $-8, -17, -26, -35, \dots$   
 $-8 - a_n + a$   
 $d = -9$   
 $a_{52} = -467$   
 $a_n = -9n + 1$   
 $a_n = a_{n-1} - 9$

6)  $-33, -25, -17, -9, \dots$   
 $-33 + 8n - 8$   
 $d = 8$   
 $a_{52} = 375$   
 $a_n = 8n - 41$   
 $a_n = a_{n-1} + 8$

Determine if the sequence is geometric. If it is, find the common ratio, the 8th term, the explicit formula, and the recursive formula.

7)  $3, 6, 12, 24, \dots$   
 $a_8 = 384$   
 $a_n = 3(2)^{n-1}$   
 $a_n = 2a_{n-1}$   
 $r = 2$

8)  $2, 4, 8, 16, \dots$   
 $a_8 = 256$   
 $a_n = 2(2)^{n-1}$   
 $a_n = 2a_{n-1}$   
 $r = 2$

Find the recursive formula.

9)  $31, 25, 19, 13, \dots$

A)  $a_n = a_{n-1} - 6$

$a_1 = 13$

B)  $a_n = a_{n-1} - 6$

$a_1 = 19$

C)  $a_n = a_{n-1} - 6$

$a_1 = 31$

D)  $a_n = a_{n-1} - 6$

$a_1 = 25$

10)  $19, 11, 3, -5, \dots$

A)  $a_n = a_{n-1} + 8$

$a_1 = 19$

B)  $a_n = a_{n-1} + 10$

$a_1 = 29$

C)  $a_n = a_{n-1} + 10$

$a_1 = 19$

D)  $a_n = a_{n-1} - 8$

$a_1 = 19$



Find the explicit formula.

11)  $-1, 5, -25, 125, \dots$

A)  $a_n = -5^{n-1}$

B)  $a_n = 5^{n-1}$

C)  $a_n = -2 \cdot 5^{n-1}$

D)  $a_n = -(-5)^{n-1}$

12)  $2, -12, 72, -432, \dots$

A)  $a_n = 2 \cdot (-6)^{n-1}$

B)  $a_n = \frac{2}{5} \cdot 5^{n-1}$

C)  $a_n = 2 \cdot 5^{n-1}$

D)  $a_n = 5^{n-1}$

Find the term named in the problem.

13)  $-13, -33, -53, -73, \dots$

Find  $a_{32}$

A)  $a_{32} = -634$

B)  $a_{32} = -674$

C)  $a_{32} = -633$

D)  $a_{32} = -654$

$-13 - 20n + 20$

$-20n + 7$

14)  $-37, 163, 363, 563, \dots$

Find  $a_{31}$

A)  $a_{31} = 5933$

B)  $a_{31} = 6023$

C)  $a_{31} = 5963$

D)  $a_{31} = 5993$

$-37 + 200n - 200$

$200n - 237$

Find the 8th term.

15)  $-2, -12, -72, -432, \dots$

A)  $a_8 = -\frac{78125}{3}$

B)  $a_8 = -93312$

C)  $a_8 = -559872$

D)  $a_8 = 729$

16)  $-1, 4, -16, 64, \dots$

A)  $a_8 = 729$

B)  $a_8 = 6561$

C)  $a_8 = 16384$

D)  $a_8 = 2187$

$-1, 4, -16, 64, -256, 1024, -4096, 16384$

$-2592, -15552, -93312, -559872$