

Practice with Sequences

Write the recursive formula for each sequence.

1) 3, 12, 48, 192, 768, ...

2) -31, -29, -27, -25, -23, ...

3) 1, 6, 36, 216, 1296, ...

4) 38, 45, 52, 59, 66, ...

5) -15, -10, -5, 0, 5, ...

6) -4, 16, -64, 256, -1024, ...

7) 1, 3, 9, 27, 81, ...

8) 31, 27, 23, 19, 15, ...

Find the first four terms in each sequence given the recursive definition.

9) $a_{n+1} = a_n + 4$
 $a_1 = 10$

10) $a_{n+1} = a_n - 10$
 $a_1 = 24$

11) $a_{n+1} = a_n \cdot \frac{1}{6}$
 $a_1 = 2$

12) $a_{n+1} = a_n \cdot -2$
 $a_1 = -3$

Find the 10th term in each sequence.

13) $a_{n+1} = a_n \cdot 2$
 $a_1 = 4$

14) $a_{n+1} = a_n + 6$
 $a_1 = 16$

Find the first four terms in each sequence given the explicit definition.

15) $a_n = -22 + 10n$

16) $a_n = 2^n + 1$

17) $a_n = n^2 - 2$

18) $a_n = 3 + 4n$

Find the tenth term in each sequence.

19) $a_n = -\frac{14}{3} + \frac{2}{3}n$

20) $a_n = n^2 + 1$

For each sequence, state if it is arithmetic or geometric.

21) $a_n = a_{n-1} + \frac{1}{3}$
 $a_1 = -\frac{13}{7}$

22) $a_n = a_{n-1} \cdot 5$
 $a_1 = -2$

23) $a_n = a_{n-1} \cdot 4$
 $a_1 = 2$

24) $a_n = a_{n-1} + 6$
 $a_1 = -11$

25) 1, 6, 36, 216, 1296, ...

26) 8, 11, 14, 17, 20, ...

27) -4, 6, 16, 26, 36, ...

28) 1, 2, 4, 8, 16, ...