

Find the next three terms in each sequence.

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

2) 9, 109, 209, 309, 409, ...

3) 0, 3, 8, 15, 24, ...

4) $\frac{1}{2}, \frac{1}{2}, \frac{3}{8}, \frac{1}{4}, \frac{5}{32}, \dots$

5) 4, 16, 36, 64, 100, ...

6) 14, 34, 54, 74, 94, ...

7) $5, \frac{5}{2}, \frac{5}{4}, \frac{5}{8}, \frac{5}{16}, \dots$

8) -9, 101, -999, 10001, -99999, ...

Find the tenth term in each sequence.

9) $-1, \frac{2}{3}, \frac{7}{3}, 4, \frac{17}{3}, \dots$

10) 7, 9, 12, 16, 21, ...

11) -2, -6, -18, -54, -162, ...

12) -23, -18, -13, -8, -3, ...

13) -4, 12, -36, 108, -324, ...

14) -6, -2, 0, 1, $\frac{3}{2}, \dots$

15) -28, 172, 372, 572, 772, ...

16) 37, 46, 55, 64, 73, ...

Find the first four terms in each sequence.

17) $a_n = \frac{2n+1}{n^3}$

18) $a_n = 3^{n-1}$

19) $a_n = n^2 + 1$

20) $a_n = \frac{n^3}{2n+1}$

Find the tenth term in each sequence.

$$21) a_n = \frac{2n+1}{n^3}$$

$$22) a_n = 4^{n-1}$$

$$23) a_n = (2n)^2$$

$$24) a_n = (2n-1)^2$$

Find the first four terms in each sequence.

$$25) a_n = a_{n-1} + 10 \\ a_1 = 29$$

$$26) a_n = a_{n-1} \cdot 2 \\ a_1 = -1$$

$$27) a_n = a_{n-1} + n \\ a_1 = -4$$

$$28) a_n = \frac{2 + a_{n-1}}{2} \\ a_1 = 10$$

Find the tenth term in each sequence.

$$29) a_n = na_{n-1} \\ a_1 = -1$$

$$30) a_n = a_{n-1} + 10 \\ a_1 = 11$$

$$31) a_n = a_{n-1} \cdot 3 \\ a_1 = -3$$

$$32) a_n = \frac{2 + a_{n-1}}{2} \\ a_1 = -14$$

Write the explicit formula for each sequence.

$$33) -12, -9, -6, -3, 0, \dots$$

$$34) -6, -3, -2, -\frac{3}{2}, -\frac{6}{5}, \dots$$

Write the recursive formula for each sequence.

$$35) 2, 4, 7, 11, 16, \dots$$

$$36) 15, 215, 415, 615, 815, \dots$$