

Geometric Sequence - Finding Explicit & Recursive Formula

Find the explicit formula and the recursive formula.

1) $-3, 6, -12, 24, \dots$

2) $-4, 8, -16, 32, \dots$

3) $4, -24, 144, -864, \dots$

4) $1, -2, 4, -8, \dots$

Given two terms in a geometric sequence find the explicit formula and the recursive formula.

5) $a_6 = -23328$ and $a_1 = -3$

6) $a_3 = -25$ and $a_2 = 5$

7) $a_3 = 144$ and $a_4 = 864$

8) $a_6 = 3125$ and $a_5 = 625$

Given the first term and the common ratio of a geometric sequence find the explicit formula and the recursive formula.

9) $a_1 = -4, r = -3$

10) $a_1 = -2, r = -5$

11) $a_1 = 2, r = 4$

12) $a_1 = 4, r = 5$

Given the second term and the common ratio of a geometric sequence find the explicit formula and the recursive formula.

13) $a_2 = 5, r = 5$

14) $a_2 = 18, r = -6$

15) $a_2 = 12, r = 4$

16) $a_2 = -12, r = 4$

Given a term in a geometric sequence and the common ratio find the explicit formula and the recursive formula.

17) $a_1 = 4, r = 3$

18) $a_3 = 9, r = -3$

19) $a_3 = 16, r = 4$

20) $a_1 = -2, r = 4$

Answers to Geometric Sequence - Finding Explicit & Recursive Formula (ID: 1)

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| 1) Explicit: $a_n = -3 \cdot (-2)^{n-1}$
Recursive: $a_n = a_{n-1} \cdot -2$
$a_1 = -3$ | 2) Explicit: $a_n = -4 \cdot (-2)^{n-1}$
Recursive: $a_n = a_{n-1} \cdot -2$
$a_1 = -4$ | 3) Explicit: $a_n = 4 \cdot (-6)^{n-1}$
Recursive: $a_n = a_{n-1} \cdot -6$
$a_1 = 4$ |
| 4) Explicit: $a_n = (-2)^{n-1}$
Recursive: $a_n = a_{n-1} \cdot -2$
$a_1 = 1$ | 5) Explicit: $a_n = -3 \cdot 6^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 6$
$a_1 = -3$ | 6) Explicit: $a_n = -(-5)^{n-1}$
Recursive: $a_n = a_{n-1} \cdot -5$
$a_1 = -1$ |
| 7) Explicit: $a_n = 4 \cdot 6^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 6$
$a_1 = 4$ | 8) Explicit: $a_n = 5^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 5$
$a_1 = 1$ | 9) Explicit: $a_n = -4 \cdot (-3)^{n-1}$
Recursive: $a_n = a_{n-1} \cdot -3$
$a_1 = -4$ |
| 10) Explicit: $a_n = -2 \cdot (-5)^{n-1}$
Recursive: $a_n = a_{n-1} \cdot -5$
$a_1 = -2$ | 11) Explicit: $a_n = 2 \cdot 4^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 4$
$a_1 = 2$ | 12) Explicit: $a_n = 4 \cdot 5^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 5$
$a_1 = 4$ |
| 13) Explicit: $a_n = 5^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 5$
$a_1 = 1$ | 14) Explicit: $a_n = -3 \cdot (-6)^{n-1}$
Recursive: $a_n = a_{n-1} \cdot -6$
$a_1 = -3$ | 15) Explicit: $a_n = 3 \cdot 4^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 4$
$a_1 = 3$ |
| 16) Explicit: $a_n = -3 \cdot 4^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 4$
$a_1 = -3$ | 17) Explicit: $a_n = 4 \cdot 3^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 3$
$a_1 = 4$ | 18) Explicit: $a_n = (-3)^{n-1}$
Recursive: $a_n = a_{n-1} \cdot -3$
$a_1 = 1$ |
| 19) Explicit: $a_n = 4^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 4$
$a_1 = 1$ | 20) Explicit: $a_n = -2 \cdot 4^{n-1}$
Recursive: $a_n = a_{n-1} \cdot 4$
$a_1 = -2$ | |