

Determine if the sequence is arithmetic. If it is, find the common difference. Write the formula for each sequence.

1) 35, 32, 29, 26, ...

Find a_{15}

3) -34, -64, -94, -124, ...

Find the 34th term

5) -7, -9, -11, -13, ...

Find the term that has the value of -91

2) -3, -23, -43, -63, ...

Find a_{10}

4) -30, -40, -50, -60, ...

Find the 21st term

6) 9, 14, 19, 24, ...

Find the term that has the value of 59

Geometric Sequence Assignment



Determine if the sequence is geometric. If it is, find the common ratio.

1) $-1, 6, -36, 216, \dots$

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

5) $-2, -4, -8, -16, \dots$

6) $1, -5, 25, -125, \dots$

Given the explicit formula for a geometric sequence find the first five terms and the 8th term.

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

8) $a_n = 2 \cdot \left(\frac{1}{4}\right)^{n-1}$

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

15) $a_1 = 0.8, r = -5$

16) $a_1 = 1, r = 2$

Series and Sums

Evaluate each series.

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13) $a_1 = 2, a_n = 122, n = 13$

14) $a_1 = -18, a_n = -102, n = 13$

15) $20 + 27 + 34 + 41\dots, n = 16$

16) $20 + 30 + 40 + 50\dots, n = 15$

17) $1 - 5 + 25 - 125\dots, n = 7$

18) $-3 - 6 - 12 - 24\dots, n = 9$

Find the number of terms in each sequence.

19) $a_1 = 19, a_n = 96, S_n = 690$

20) $a_1 = 16, a_n = 163, S_n = 4475$

21) $a_1 = -2, r = 5, S_n = -62$

22) $a_1 = 3, r = -3, S_n = -60$

Rewrite each series as a sum. (In calculator, [Alpha] [Window] [2])

$$1) \sum_{m=1}^5 (4m^2 + 4)$$

$$2) \sum_{k=1}^5 (30 - k^2)$$

$$3) \sum_{n=1}^5 n$$

$$4) \sum_{m=1}^6 (50 - m)$$

$$5) \sum_{a=1}^6 (3a^2 - 2)$$

$$6) \sum_{m=1}^5 (100 - m)$$