

Review on Seq. & Series

Circle the correct answer.

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Determine if the sequence is arithmetic. If it is, find the common difference.

1) 0, -2, -4, -6, ...

- A) $d = -2$ B) $d = -3$
 C) $d = 3$ D) $d = 2$

Determine if the sequence is arithmetic. If it is, find the 52nd term.

2) 1, -1, -3, -5, ...

- A) $a_{52} = -103$ B) $a_{52} = -105$
 C) $a_{52} = -101$ D) $a_{52} = -54$

Determine if the sequence is arithmetic. If it is, find the term named in the problem.

3) -36, -236, -436, -636, ...

Find a_{36}

- A) Not arithmetic
 B) $a_{36} = -7035$
 C) $a_{36} = -7036$
 D) $a_{36} = -7235$

Determine if the sequence is arithmetic. If it is, find the explicit formula.

4) -36, -136, -236, -336, ...

- A) $a_n = -136 + 100n$
 B) $a_n = -138 + 102n$
 C) $a_n = -137 + 101n$
 D) $a_n = 64 - 100n$

Find the next three terms in each sequence.

5) -2.5, 5, -10, 20, -40, ...

- A) 144, 288, 576
 B) 112, 224, 448
 C) 80, -160, 320
 D) 80, 160, 320

For each sequence, state if it is arithmetic, geometric, or neither.

6) $3, \frac{5}{4}, \frac{7}{9}, \frac{9}{16}, \frac{11}{25}, \dots$

- A) Neither B) Arithmetic
 C) Geometric

7) -8, -6, -3, 1, 6, ...

- A) Geometric B) Neither
 C) Arithmetic

Find the first four terms in each sequence.

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

A) $7, \frac{5}{6}, \frac{2}{7}, \frac{7}{61}$

B) $7, \frac{5}{6}, \frac{7}{27}, \frac{7}{64}$

C) $3, \frac{5}{8}, \frac{7}{27}, \frac{9}{64}$

D) $7, \frac{5}{6}, \frac{5}{27}, \frac{7}{64}$

9) $a_n = n^2 + 2$

A) 1, 6, 11, 18

B) -1, 6, 11, 18

C) 3, 6, 11, 18

D) -1, 3, 11, 18

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

10) -2, 8, -32, 128, ...

A) $r = -3$ B) $r = 3$

C) $r = -4$ D) $r = 4$

Determine if the sequence is geometric. If it is, find the three terms in the sequence after the last one given.

11) -3, 12, -48, 192, ...

A) $\frac{3}{64}, -\frac{3}{256}, \frac{3}{1024}$

B) -768, 3072, -12288

C) $-\frac{3}{256}, \frac{3}{1024}, -\frac{3}{4096}$

D) $\frac{13}{256}, -\frac{13}{1024}, \frac{13}{4096}$

Determine if the sequence is geometric. If it is, find the 8th term.

12) -3, -15, -75, -375, ...

A) $a_8 = -234375$

B) $a_8 = 1093750$

C) $a_8 = -1792$

D) $a_8 = 1171875$

Determine if the sequence is geometric. If it is, find the term named in the problem.

13) -1, -4, -16, -64, ...

Find a_{10}

A) $a_{10} = -262144$

B) $a_{10} = -3906250$

C) $a_{10} = -1953125$

D) $a_{10} = 1953125$

Determine if the sequence is geometric. If it is, find the explicit formula.

14) $-3, 9, -27, 81, \dots$

A) $a_n = -3 \cdot (-3)^{n-1}$

B) $a_n = 4 \cdot 3^{n-1}$

C) $a_n = 12 \cdot 3^{n-1}$

D) $a_n = -4 \cdot (-3)^{n-1}$

Given the explicit formula for a geometric sequence find the first five terms.

15) $a_n = 4 \cdot (-3)^{n-1}$

A) $-13, -39, -117, -351, -1053$

B) $-4, -12, -36, -108, -324$

C) $-12, -36, -108, -324, -972$

D) $4, -12, 36, -108, 324$

Given the first term and the common ratio of a geometric sequence find the term named in the problem.

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

Find a_{11}

A) $a_{11} = -236196$

B) $a_{11} = 177147$

C) $a_{11} = 236196$

D) $a_{11} = -4194304$

Evaluate each arithmetic series described.

17) $\sum_{k=1}^6 (2k + 5)$

A) 144

B) 302

C) 151

D) 72

18) $a_1 = 7, a_n = 55, n = 13$

A) 808

B) 814

C) 806

D) 403

Determine the number of terms n in each arithmetic series.

19) $a_1 = -16, a_n = -94, S_n = -2200$

A) 31

B) 40

C) 46

D) 36

Evaluate each geometric series described.

20) $\sum_{m=1}^7 4 \cdot 3^{m-1}$

A) 4372

B) 4591

C) 5360

D) -2

21) $a_1 = 4, r = 3, n = 8$

A) 12636

B) -2

C) 12552

D) 13120

Answers to Review on Seq. & Series

Circle the correct answer. (ID: 1)

- 1) A
- 5) C
- 9) C
- 13) A
- 17) D
- 21) D

- 2) C
- 6) A
- 10) C
- 14) A
- 18) D

- 3) C
- 7) B
- 11) B
- 15) D
- 19) B

- 4) D
- 8) C
- 12) A
- 16) A
- 20) A