Finite Geometric Series

Name:

Date:

Evaluate the geometric series described.

1) $\sum_{n=1}^{8} 2.(-2)^{n-1}$

Evaluate the related series of each sequence.

2)2,6,18,54,162,486,1458

3) 81,27,9,3,1

4) $6, -12, 24, -48, 96, -192, 384$

5) $\frac{2}{3}, \frac{4}{9}, \frac{8}{27}, \frac{16}{81}, \frac{32}{243}$

Evaluate each geometric series described.

6) $\sum_{n=1}^{10} 4.(-3)^{n-1}$

7) $3,6,12,24,48,96,192,384 \ldots, n = 10$

8) $16, -32, 64, -128, 256, \ldots, n = 9$

9) $1, -5, 25, -125, \ldots, n = 9$

Finite Geometric Series

Name:

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Answers

Evaluate the geometric series described.

1) $\sum_{n=1}^{8} 2.(-2)^{n-1} \Rightarrow r = -2, s_n = -170$

Evaluate the related series of each sequence.

2)2,6,18,54,162,486,1458 $\Rightarrow s_n = 2186$

3) 81,27,9,3,1 $\Rightarrow s_n = 121$

4) $6, -12, 24, -48, 96, -192, 384 \Rightarrow s_n = 258$

5) $\frac{2}{3}, \frac{4}{9}, \frac{8}{27}, \frac{16}{81}, \frac{32}{243} \Rightarrow s_n = 1.73$

Evaluate each geometric series described.

6) $\sum_{n=1}^{10} 4.(-3)^{n-1} \Rightarrow s_n = -59048$

7) $3,6,12,24,48,96,192,384 \ldots, n = 10 \Rightarrow s_n = 3069$

8) $16, -32, 64, -128, 256, \ldots, n = 9 \Rightarrow s_n = 2736$

9) $1, -5, 25, -125, \ldots, n = 9 \Rightarrow s_n = 325521$