

Math Sheet

Name _____ Score _____ Teacher _____ Date _____

Finite Geometric Series

Evaluate each geometric series, then determine the number of terms in the final section.

1. Find the sum of each displayed geometric list.

1. Add these 4 terms: 5, -10, 20, -40

Answer: _____

2. Add these 5 terms: 2.2, 6.6, 19.8, 59.4, 178.2

Answer: _____

3. Add these 4 terms: 1.3, 2.6, 5.2, 10.4

Answer: _____

4. Add these 5 terms: 2, -8, 32, -128, 512

Answer: _____

2. Evaluate each geometric sigma expression.

5.
$$\sum_{n=1}^6 4.6 \cdot 4^{n-1}$$

Answer: _____

6.
$$\sum_{n=1}^6 2 \cdot 2^{n-1}$$

Answer: _____

7.
$$\sum_{n=1}^6 1.7 \cdot (-3)^{n-1}$$

Answer: _____

8.
$$\sum_{n=1}^5 5 \cdot (-4)^{n-1}$$

Answer: _____

3. Find the number of terms, N.

9. $a_1 = 2.3$ $a_N = 1676.7$ $S_N = 2513.9$

Answer: _____

10. $a_1 = 1.5$ $a_N = 40.5$ $S_N = 60.0$

Answer: _____

11. $a_1 = 2$ $a_N = 8$ $S_N = 14$

Answer: _____

12. $a_1 = 4$ $a_N = 64$ $S_N = 84$

Answer: _____

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Finite Geometric Series

Answer Key

Evaluate each geometric series, then determine the number of terms in the final section.

1. Find the sum of each displayed geometric list.

1. Add these 4 terms: 5, -10, 20, -40

$r = -2$; Sum = -25

2. Add these 5 terms: 2.2, 6.6, 19.8, 59.4, 178.2

$r = 3$; Sum = 266.2

3. Add these 4 terms: 1.3, 2.6, 5.2, 10.4

$r = 2$; Sum = 19.5

4. Add these 5 terms: 2, -8, 32, -128, 512

$r = -4$; Sum = 410

2. Evaluate each geometric sigma expression.

5.
$$\sum_{n=1}^6 4.6 \cdot 4^{n-1}$$

$r = 4$; Sum = 6279.0

6.
$$\sum_{n=1}^6 2 \cdot 2^{n-1}$$

$r = 2$; Sum = 126

7.
$$\sum_{n=1}^6 1.7 \cdot (-3)^{n-1}$$

$r = -3$; Sum = -309.4

8.
$$\sum_{n=1}^5 5 \cdot (-4)^{n-1}$$

$r = -4$; Sum = 1025

3. Find the number of terms, N.

9. $a_1 = 2.3$ $a_N = 1676.7$ $S_N = 2513.9$

$r = 3$; N = 7

10. $a_1 = 1.5$ $a_N = 40.5$ $S_N = 60.0$

$r = 3$; N = 4

11. $a_1 = 2$ $a_N = 8$ $S_N = 14$

$r = 2$; N = 3

12. $a_1 = 4$ $a_N = 64$ $S_N = 84$

$r = 4$; N = 3