

## Geometric Sequences Assignment

The first three terms of a geometric sequence are given. Find the next three terms.

1. 1, 3, 9, ....

2.  $\frac{1}{1000}, \frac{1}{10}, 10$  ....

3. 100, 50, 25, ....

4. 224, 56, 14, ....

Find the common ratio and the 8th term of the following geometric sequence.

5. 2, 4, 8, ....

6. -3, 1,  $\frac{1}{3}$ , ....

Given the first term "a" and common ratio "r", generate the next three terms in a geometric sequence.

7.  $a = 12.3$ ;  $r = 0.5$

8.  $a = -4$ ;  $r = -2$

Find the nth term of the following geometric sequence.

9.  $a = 1$ ;  $r = 3$ ;  $n = 8$

10.  $a = 4$ ;  $r = 2$ ;  $n = 5$

Given the first term, the nth term and the common ratio find the sum of the following geometric sequence.

11.  $a = 3$ ;  $a_5 = 48$ ;  $r = 2$

12.  $a = 2$ ;  $a_8 = 4374$ ;  $r = 3$

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

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Given the first term and the common ratio find the sum of the first 10 terms of the following sequence.

13.  $a = 3$ ;  $r = 5$

12.  $a = 2$ ;  $r = -5$

Solve the following problem involving geometric sequences.

13. Find the fourteenth term of a geometric sequence  $\frac{1}{8}, \frac{1}{4}, \frac{1}{2}, \dots$

14. Find the one-hundred first term of the geometric sequence with  $a = 3$  and  $r = -1$ .

15. Find the sum of the first 11 term of a geometric sequence with  $a = 2$  and  $r = -3$

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## Geometric Sequences Assignment

16. If the sum of the first seven terms of a geometric sequence is 547 and the common ratio is -3, find the first term of a sequence.

19. An amount of \$1000 is deposited in an account that pays 6% compounded annually. Find the common ratio and the amount after 4 years.

20. Suppose you have the following: \$1 in the first day, \$2 in the second day, \$4 in the third day, etc. each day saving double of what you save the previous day. How many dollars you would have after 30 days?