

9.4 Geometric Sequence Worksheet

#1-29 odd

In Exercises 1-8, determine whether each sequence is geometric. If it is, find the common ratio.

1. $1, 3, 9, 27, \dots$

2. $2, 4, 8, 16, \dots$

3. $1, 4, 9, 16, 25, \dots$

4. $1, \frac{1}{4}, \frac{1}{9}, \frac{1}{16}, \dots$

5. $8, 4, 2, 1, \dots$

6. $8, -4, 2, -1, \dots$

7. $800, 1360, 2312, 3930.4, \dots$

8. $7, 15.4, 33.88, 74.536, \dots$

In Exercises 9-16, write the first five terms of each geometric series.

9. $a_1 = 6 \quad r = 3$

10. $a_1 = 17 \quad r = 2$

11. $a_1 = 1 \quad r = -4$

12. $a_1 = -3 \quad r = -2$

13. $a_1 = 10,000 \quad r = 1.06$

14. $a_1 = 10,000 \quad r = 0.8$

15. $a_1 = \frac{2}{3} \quad r = \frac{1}{2}$

16. $a_1 = \frac{1}{10} \quad r = -\frac{1}{5}$

In Exercises 17-24, write the formula for the n th term of each geometric series.

17. $a_1 = 5 \quad r = 2$

18. $a_1 = 12 \quad r = 3$

19. $a_1 = 1 \quad r = -3$

20. $a_1 = -4 \quad r = -2$

21. $a_1 = 1000 \quad r = 1.07$

22. $a_1 = 1000 \quad r = 0.5$

23. $a_1 = \frac{16}{3} \quad r = -\frac{1}{4}$

24. $a_1 = \frac{1}{200} \quad r = 5$

In Exercises 25-30, find the indicated term of each geometric sequence.

25. 7th term of the sequence $-2, 4, -8, 16, \dots$

26. 10th term of the sequence $1, -5, 25, -225, \dots$

27. 13th term of the sequence $\frac{1}{3}, \frac{2}{3}, \frac{4}{3}, \frac{8}{3}, \dots$

28. 9th term of the sequence $100, 20, 4, 0.8, \dots$

29. 15th term of the sequence $1000, 50, 2.5, 0.125, \dots$

30. 8th term of the sequence $1000, -800, 640, -512, \dots$