

DIRECTIONS: Find a formula for the n th term of each geometric sequence.

1. 2, 6, 18, 54, ...

2. 500, 100, 20, 4, ...

3. $1, \sqrt{2}, 2, 2\sqrt{2}, \dots$

4. 8, 12, 18, 27, ...

5. 64, -48, 36, -27, ...

6. $-1, 0.1, -0.01, 0.001, \dots$

DIRECTIONS: Find the specified term of each geometric sequence.

7. 2, 6, 18, 54, ...; a_{10}

8. 5, 10, 20, 40, ...; a_{12}

9. 320, 80, 20, 5, ...; a_8

10. 1, -3, 9, -27, ...; a_8

11. -10, 50, -250, 1250, ...; a_9

12. 40, -20, 10, -5, ...; a_{11}

DIRECTIONS: Find the geometric mean between each pair of numbers.

13. 2, 8

14. $\frac{1}{12}, \frac{1}{18}$

15. $\sqrt{3}, 3\sqrt{3}$

16. -18, -36

DIRECTIONS: Write each series in expanded form and find the sum.

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

18. $\sum_{m=0}^4 3^m$

19. $\sum_{j=0}^5 \frac{(-1)^j}{j+1}$

20. $\sum_{k=0}^3 4^{-k}$

21. $\sum_{n=1}^4 (-n)^{n+1}$

DIRECTIONS: Find the sum of the first n terms of each geometric series.

22. $1 + 4 + 16 + 64 + \dots; n = 14$

23. $1 + 9 + 81 + 729 + \dots; n = 10$

24. $7 + (-21) + 63 + (-189) + \dots; n = 18$

25. $2 + 10 + 50 + 250 + \dots; n = 9$