

12 CHAPTER REVIEW



TEXAS @HomeTutor

classzone.com

- Multi-Language Glossary
- Vocabulary practice

REVIEW KEY VOCABULARY

- sequence, p. 794
- terms of a sequence, p. 794
- series, p. 796
- summation notation, p. 796
- sigma notation, p. 796
- arithmetic sequence, p. 802
- common difference, p. 802
- arithmetic series, p. 804
- geometric sequence, p. 810
- common ratio, p. 810
- geometric series, p. 812
- partial sum, p. 820
- explicit rule, p. 827
- recursive rule, p. 827
- iteration, p. 830

VOCABULARY EXERCISES

1. Copy and complete: The values in the range of a sequence are called the ? of the sequence.
2. **WRITING** How can you determine whether a sequence is arithmetic?
3. Copy and complete: A(n) ? rule gives a_n as a function of the term's position number n in the sequence.
4. Copy and complete: In a(n) ? sequence, the ratio of any term to the previous term is constant.

REVIEW EXAMPLES AND EXERCISES

Use the review examples and exercises below to check your understanding of the concepts you have learned in each lesson of Chapter 12.

12.1 Define and Use Sequences and Series

pp. 794–800

EXAMPLE

Find the sum of the series $\sum_{i=1}^4 (i^2 - 4)$.

$$a_1 = 1^2 - 4 = -3 \quad \text{First term}$$

$$a_2 = 2^2 - 4 = 0 \quad \text{Second term}$$

$$a_3 = 3^2 - 4 = 5 \quad \text{Third term}$$

$$a_4 = 4^2 - 4 = 12 \quad \text{Fourth term}$$

The sum of the series is $\sum_{i=1}^4 (i^2 - 4) = -3 + 0 + 5 + 12 = 14$.

EXERCISES

Find the sum of the series.

5. $\sum_{n=1}^6 (n^2 + 7)$

6. $\sum_{i=2}^6 (10 - 4i)$

7. $\sum_{i=1}^{17} i$

8. $\sum_{k=1}^{25} k^2$

EXAMPLES 5 and 6

on p. 797
for Exs. 5–8