Unit 1: Sequences and Functions

PRACTICE

Name: _____ Date: _____

Find each answer and write it in simplest form (a number, fraction like 3/4, or a single word such as "geometric").

1. An arithmetic sequence has first term a_1 = 4 and common difference d = 3. Find the 10th term, a_10.

Answer: _____

2. Find the common difference of the arithmetic sequence 7, 11, 15, 19, ...

Answer: _____

3. Find the common ratio of the geometric sequence 3, 6, 12, 24, ...

Answer: _____

4. A geometric sequence has first term a_1 = 5 and common ratio r = 2. Find the 4th term, a_4.

Answer: _____

5. An arithmetic sequence is modeled by the function a_n = 5n - 3. Find a_8.

Answer: _____

6. An arithmetic sequence has a_1 = -3 and a_5 = 13. Find the common difference d.

Answer: _____

7. A geometric sequence has a_1 = 2 and a_4 = 54. Find the common ratio r.

Answer: _____

8. A geometric sequence is modeled by g(n) = 6 × (1/2)^(n-1). Find g(4).

Answer: _____

9. Find the 20th term of the arithmetic sequence 100, 95, 90, 85, ...

Answer: _____

10. A sequence is defined recursively by a_1 = 8 and a_n = a_(n-1) + 6. Find a_5.

Answer: _____

11. A sequence is defined recursively by a_1 = 4 and a_n = 3 × a_(n-1). Find a_3.

Answer: _____

12. Is the sequence 2, 6, 18, 54, ... arithmetic, geometric, or neither?

Answer: _____