

6.6

Practice A

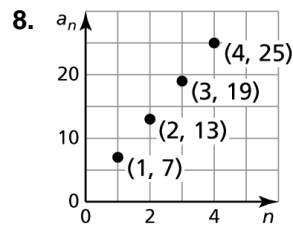
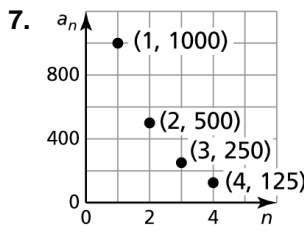
In Exercises 1–3, find the common ratio of the geometric sequence.

1. 2, 6, 18, 54, K 2. 135, 45, 15, 5, K 3. 7, -14, 28, -56, K

In Exercises 4–6, determine whether the sequence is *arithmetic*, *geometric*, or *neither*. Explain your reasoning.

4. 1, 4, 9, 16, K 5. 12, 17, 22, 27, K 6. 4, -12, 36, -108, K

In Exercises 7 and 8, determine whether the graph represents an *arithmetic sequence*, a *geometric sequence*, or *neither*. Explain your reasoning.



In Exercises 9 and 10, write the next three terms of the geometric sequence. Then graph the sequence.

9. 3, 15, 75, 375, K 10. 1024, -256, 64, -16, K

In Exercises 11–14, write an equation for the n th term of the geometric sequence. Then find a_6 .

11. 3, 6, 12, 24, K

12. 0.375, 3, 24, 192, K

13.

n	1	2	3	4
a_n	0.0124	1.24	124	12,400

14.

n	1	2	3	4
a_n	-1024	128	-16	2

15. A digital city map displays an area of 544 square units. After you zoom in once, the area is 272 square units. After you zoom in a second time, the area is 136 square units. What is the area after you zoom in five times?

16. What is the 8th term of the geometric sequence where $a_2 = 20$ and $r = 5$?

6.6 Practice B

In Exercises 1–3, find the common ratio of the geometric sequence.

1. 5, 20, 80, 320, K 2. 144, -72, 36, -18, K 3. 24, 84, 294, 1029, K

In Exercises 4–7, determine whether the sequence is *arithmetic*, *geometric*, or *neither*. Explain your reasoning.

4. 2.786, 27.86, 278.6, 2786, K 5. 86, 71, 56, 41, K
6. 4, -10, 16, -28, K 7. 112, -28, 7, $-\frac{7}{4}$, K

In Exercises 8 and 9, write the next three terms of the geometric sequence. Then graph the sequence.

8. -2, -12, -72, -432, K 9. $\frac{54}{25}$, $\frac{18}{5}$, 6, 10, K

In Exercises 10–13, write an equation for the n th term of the geometric sequence. Then find a_6 .

10. $\frac{3}{125}$, $\frac{3}{25}$, $\frac{3}{5}$, 3, K 11. 0.2, 1.6, 12.8, 102.4, K

12.

n	1	2	3	4
a_n	2436	-243.6	24.36	-2.436

13.

n	1	2	3	4
a_n	-1458	-162	-18	-2

14. An archery competition begins with 256 competitors. After the first round, one-fourth of the competing group remains. After the second round, one-fourth of the now smaller competing group remains. The last round is when there are fewer than five members in the competing group.

- a. Which round is the last round?
b. How many competitors are in the last round?

15. What is the 10th term of the geometric sequence where $a_3 = \frac{8}{3}$ and $r = \frac{2}{3}$?

16. Find the sum of the terms of the geometric sequence

$$1, \frac{1}{3}, \frac{1}{9}, \frac{1}{27}, K.$$

Explain your reasoning.