

Name _____

Date _____ Pd. _____

Notes: Geometric SequencesGeometric
Sequence

Example: 1, 2, 4, 8, 16, ...

Example 1

Determine whether each sequence is geometric.

a. 3, 6, 9, 12, 15, ...

b. 1, 4, 16, 64, ...

Example 2

Find the next three terms in each geometric sequence.

a. 8, -4, 2, -1, ...

b. 7, 14, 28, 56, ...

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Exit Card: Geometric Sequences

The first three terms of a geometric sequence are $80, -40, 20$. What are the next three terms?

- A.** 10, 5, 2.5 **B.** $-10, 5, -2.5$ **C.** 0, $-20, 40$ **D.** $-160, 320, -640$
-

ECR

The function $P(x) = 2048(1.25)^x$ represents the population x years since 2000 for a country.

- What was the population of the country in the year 2000? Explain how you determined your answer. Use words, symbols, or both in your explanation.
- At what rate is the population increasing each year?
- In what year will the population be 6250? Use mathematics to justify your answer.

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Homework: Pages 571 – 572 (17 – 20, 25 – 28, 33, 34, 64, 65)

17. Determine if 2, 6, 18, 54, ... is a geometric sequence.

18. Determine if 7, 17, 27, 37, ... is a geometric sequence.

19. Determine if $-19, -16, -13, -10, \dots$ is a geometric sequence.

20. Determine if 640, 160, 40, 10, ... is a geometric sequence.

25. Find the next three terms of 1, -4, 16, -64, ...

26. Find the next three terms of $-1, -6, -36, -216, \dots$

27. Find the next three terms of 1024, 512, 256, 128, ...

28. Find the next three terms of 224, 112, 56, 28, . . .

33. A rectangle is 6 inches by 8 inches. The rectangle is cut in half, and one half is discarded. The remaining rectangle is cut in half, and one half is discarded. This is repeated twice. List the area of the five rectangles formed.

34. To bisect an angle means to cut it into two angles with the same measure. Suppose a 160° angle is bisected. Then one of the new angles is bisected. This is repeated twice. List the measures of the four sizes of angles.

64. Which number is next in the geometric sequence 40, 100, 250, 625, . . . ?

A 900

B 1250

C 1562.5

D 1875

65. Find the next term in the following geometric sequence 343, 49, 7, 1, . . .

