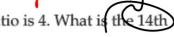
Algebra 1 7.7
Identify and generate geometric sequences
Relate geometric sequences to exponential functions
sequence
arithmetic sequence (3.5)
geometric sequence — must ruly
common ratio ruly rewhiteboards





27. The first term of a geometric series is 2 and the common ratio is 4. What is the term of the sequence?

$$y = \lambda(4)^{14-1}$$

 $y = \lambda \cdot 4$
= 134,217,728

KeyConcept nth term of a Geometric Sequence

The nth term a_n of a geometric sequence with first term a_1 and common ratio r is given by the following formula, where n is any positive integer and $a_1, r \neq 0$.

$$a_{\mathbf{n}} = a_{\mathbf{1}}(\mathbf{n} - 1)$$

GuidedPractice

3. Write an equation for the *n*th term of the geometric sequence $96, 48, 24, 12, \dots$

Then find the tenth term of the sequence. $\begin{array}{c|c}
 & & & \\
 & & & \\
 & & & \\
 & & & \\
\end{array}$

$$y = 96\left(\frac{1}{2}\right)^{N-1}$$
 $y = 96\left(\frac{1}{2}\right)^{9}$



Real-World Example 4 Graph a Geometric Sequence

BASKETBALL The NCAA women's basketball tournament begins with 64 teams. In each round, one half of the teams are left to compete, until only one team remains. Draw a graph to represent how many teams are left in each round.

