Algebra 1 7.7

Identify and generate geometric sequences

Relate geometric sequences to exponential functions

sequence

arithmetic sequence (3.5) +

geometric sequence ×

common ratio $r = 2$ $r = \frac{1}{3}$

whiteboards

$y = (\quad)(\quad)^{n-1}$

GemA

3, 6, 12, 24, 48...
first term: 3
common ratio (r): $r = 2$
eg look for patterns

$$y = (3)(2)^{n-1}$$

$$= (3)(2)^{9}$$
$$= 1536$$

27. The first term of a geometric series is 2 and the common ratio is 4. What is the 14th term of the sequence?

Write eq.

14th term?

GuidedPractice

3. Write an equation for the nth term of the geometric sequence 96, 48, 24, 12, … . Then find the tenth term of the sequence.

write eq

10^{th}

Write the equation for the geometric sequence:

- 1 3 9 27 54...

$12^{th} =$

- 100 50 25 12.5...

20^{th}

- 2 3 4.5 6.75...

15^{th}

What is the 27th term?

3 6 12 24 48...