Vocabulary: Geometric Sequences

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**Vocabulary**

* Common ratio – the ratio between any two consecutive terms in a geometric sequence.
* Explicit formula – a rule that allows direct calculation of any term in a sequence.
  + In general, the *n*th term in a geometric sequence is given by: *an* = *a1* • *r n* – 1, where *a*1 is the first term and *r* is the common ratio.
  + For example, the *n*th term of the sequence 5, 10, 20, 40, … is described by the explicit formula *an* = 5 • 2*n* – 1.
* Geometric mean – the *n*th root of a set of *n* numbers.
  + The geometric mean of two numbers is the square root of their product.
    - For example, the geometric mean of 10 and 40 is  =  = 20.
* Geometric sequence – a sequence in which the ratio of any two consecutive terms is constant.
  + For example, the sequence 5, 10, 20, 40, … is geometric because the ratio of any pair of consecutive terms is 2.
  + A geometric sequence is sometimes called a *geometric progression*.
* Recursive formula – a rule that allows you to find a term in a sequence, based upon the previous term.
  + In general, the recursive formula for the *n*th term of a geometric sequence is given by the recursive rule, *an*= *an* – 1 • *r*, and the first term, *a*1.
  + The geometric sequence 5, 10, 20, 40, … is defined recursively by the formula *a*1 = 5 and *an* = *an* – 1 • 2.
* Sequence – an ordered list of numbers.
* Term – each number or item in a sequence.