Lesson 1.5 Math Lab: Assess Your Understanding, page 62

1. Create the first 5 terms of a geometric sequence with positive first term for each description of a graph.

   a) The term values approach 0 as more points are plotted.

   For the term values to approach 0, the common ratio must be between 0 and 1; for example, with $r = 0.4$, a possible sequence is: 2, 0.8, 0.32, 0.128, 0.0512, . . .

   b) The term values increase as more points are plotted.

   For the term values to increase, the common ratio must be greater than 1; for example, with $r = 4$, a possible sequence is: 2, 8, 32, 128, 512, . . .

   c) The term values alternate between positive and negative as more points are plotted.

   For the term values to alternate between positive and negative, the common ratio must be negative; for example, with $r = -0.4$, a possible sequence is: 2, -0.8, 0.32, -0.128, 0.0512, . . .

2. Create a geometric series with positive first term for each description of a graph.

   a) The partial sums approach a constant value as more points are plotted.

   For the partial sums to approach a constant value, the common ratio must be between -1 and 1; for example, with $r = 0.4$, a possible series is: 2 + 0.8 + 0.32 + 0.128 + 0.0512 + . . .

   b) The partial sums increase as more points are plotted.

   For the partial sums to increase, the common ratio must be greater than 1; for example, with $r = 4$, a possible series is: 2 + 8 + 32 + 128 + 512 + . . .