### Lesson 7 Practice Problems

1. Here is the recursive definition of a sequence: for .
   1. Is this sequence arithmetic, geometric, or neither?
   2. List at least the first five terms of the sequence.
   3. Graph the value of the term as a function of the term number for at least the first five terms of the sequence.
2. An arithmetic sequence starts 12, 6, . . .
   1. Write a recursive definition for this sequence.
   2. Graph at least the first five terms of the sequence.
3. An arithmetic sequence  begins 11, 7, . . .
   1. Write a recursive definition for this sequence using function notation.
   2. Sketch a graph of the first 5 terms of .
   3. Explain how to use the recursive definition to find . (Don't actually determine the value.)

* (From Unit 1, Lesson 6.)

1. A geometric sequence starts 80, 40, . . .
   1. Write a recursive definition for this sequence using function notation.
   2. Use your definition to make a table of values for for the first 6 terms.
   3. Explain how to use the recursive definition to find . (Don't actually determine the value.)

* (From Unit 1, Lesson 6.)

1. Match each recursive definition with one of the sequences.
   1. for
   2. for
   3. for
   4. 80, 40, 20, 10, 5
   5. 1, 2, 4, 8, 16
   6. 1, 3, 7, 15, 31

* (From Unit 1, Lesson 5.)

1. For each sequence, decide whether it could be arithmetic, geometric, or neither.
   1. 25, 5, 1, . . .
   2. 25, 19, 13, . . .
   3. 4, 9, 16, . . .
   4. 50, 60, 70, . . .
   5. 3, 18, . . .

* For each sequence that is neither arithmetic nor geometric, how can you change a single number to make it an arithmetic sequence? A geometric sequence?
* (From Unit 1, Lesson 3.)



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