

Lesson 2 Practice Problems

1. Here are the first two terms of a geometric sequence: 2, 4. What are the next three terms?

2. What is the growth factor of each geometric sequence?
 - a. 1, 1, 1, 1, 1
 - b. 256, 128, 64
 - c. 18, 54, 162
 - d. 0.8, 0.08, 0.008
 - e. 0.008, 0.08, 0.8

3. A person owes \$1000 on a credit card that charges an interest rate of 2% per month.

Complete this table showing the credit card balance each month if they do not make any payments.

month	total bill in dollars
1	1,000
2	1,020
3	1,040.40
4	
5	
6	
7	
8	

4. A Sierpinski triangle can be created by starting with an equilateral triangle, breaking the triangle into 4 congruent equilateral triangles, and then removing the middle triangle. Starting from a single black equilateral triangle with an area of 256 square inches, here are the first four steps:



a. Complete this table showing the number of shaded triangles in each step and the area of each triangle.

step number	number of shaded triangles	area of each shaded triangle in square inches
0	1	256
1	3	
2		
3		
4		
5		

b. Graph the number of shaded triangles as a function of the step number, then separately graph the area of each triangle as a function of the step number.

c. How are these graphs the same? How are they different?

5. Here is a rule to make a list of numbers: Each number is 4 less than 3 times the previous number.

a. Starting with the number 10, build a sequence of 5 numbers.

b. Starting with the number 1, build a sequence of 5 numbers.

c. Select a different starting number and build a sequence of 5 numbers.

(From Unit 1, Lesson 1.)

6. A sequence starts 1, -1, . . .

a. Give a rule the sequence could follow and the next 3 terms.

b. Give a *different* rule the sequence could follow and the next 3 terms.

(From Unit 1, Lesson 1.)