

# Key

## 8.2 Function Rules (6.EE.2, 6.EE.2c, 6.EE.6, and 6.EE.9)

### Vocabulary

A sequence is a list of numbers in a specific order. Each number in the list is called a term of the sequence.

arithmetic - A sequence in which the difference between any two consecutive terms is the same (add the same number each time).

geometric - A sequence in which each term is found by multiplying the previous term by the same number.

### Guided Practice

- 1.) Describe the relationship between the terms in the sequence 13, 26, 52, 104, ...  
Then, write the next three terms in the sequence.

times 2      208, 416, 832

✓ ✓ ✓  
x2 x2 x2

- 2.) Use words and symbols to describe the value of each term as a function of its position.  
Then, find the value of the fifteenth term in the sequence.

words: times 2

sym. :  $\cdot 2$

15<sup>th</sup> : 30

Position	1	2	3	4	N
Value of term	2	4	6	8	

- 3.) The table below shows the fee of overdue books at the library, based on the number of weeks the book is overdue. Write a function rule to find the fee for a book that is "x" weeks overdue.

Weeks overdue (x)	Fee (\$)
1	3
2	5
3	7
4	9
x	

$$x \cdot 2 + 1$$

OR

$$2x + 1$$

### Partner Talk

Describe the relationship between the terms in the sequence 6, 18, 54, 162, ...  
Then, write the next three terms in the sequence.

times three      486, 1458, 4374

✓ ✓ ✓  
x3 x3 x3

Building on the Essential Question - What is the difference between an arithmetic sequence and a geometric sequence?

arithmetic → addition      geometric → mult.

Are you ready to move on?      YES      or      NO