BELL RINGER:

1. Please list as many characteristics of Arithmetic sequences as you can.

2. Please list as many characteristics of a geometric sequence as you can.

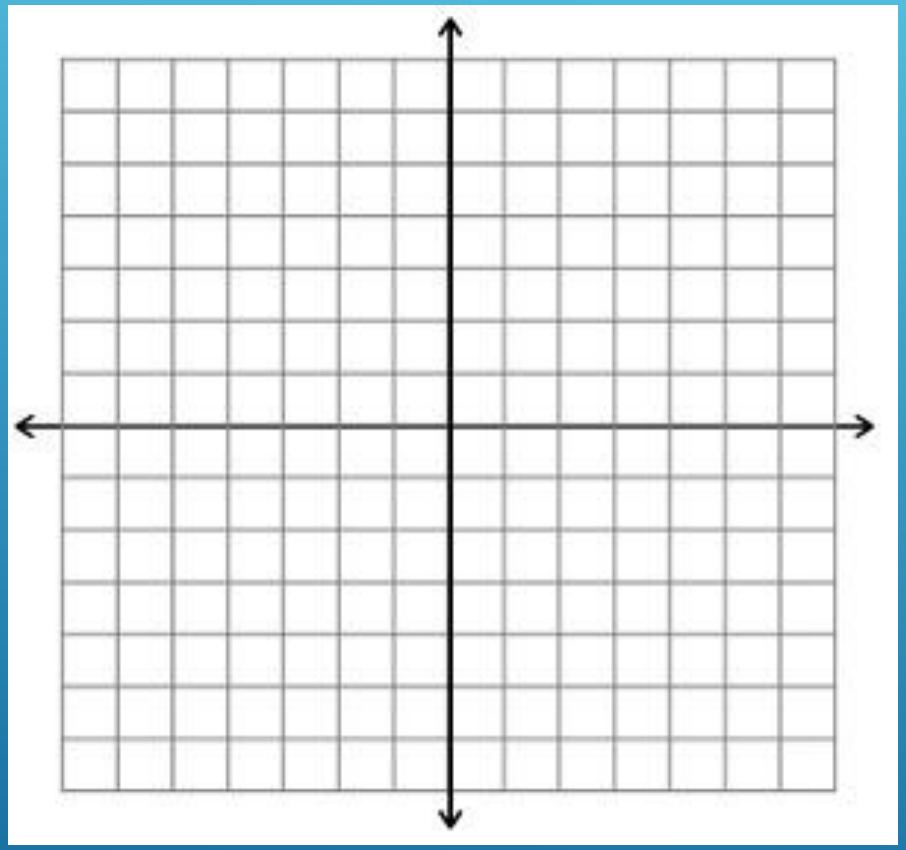
   (You may not know what a geometric sequence is which is **ok**, please guess!)

3. Please compare and contrast the two sequences. What do they have in common? What is different about them?

OBJECTIVES

- I **CAN** identify characteristics of arithmetic and geometric sequences.
- I **CAN** compare and contrast arithmetic and geometric sequences.
- I **CAN** graph and create my own geometric sequence.

ARITHMETIC SEQUENCES



- The **terms** of the **sequence** increase or decrease by a constant difference, also known as the **common difference.**
- **Ex:** -4,1,6,11,16,…

Position, x					
Term, y					

- Arithmetic sequences represent a **linear model.**
- **general formula:** $a_n = a_1 + (n-1)d$

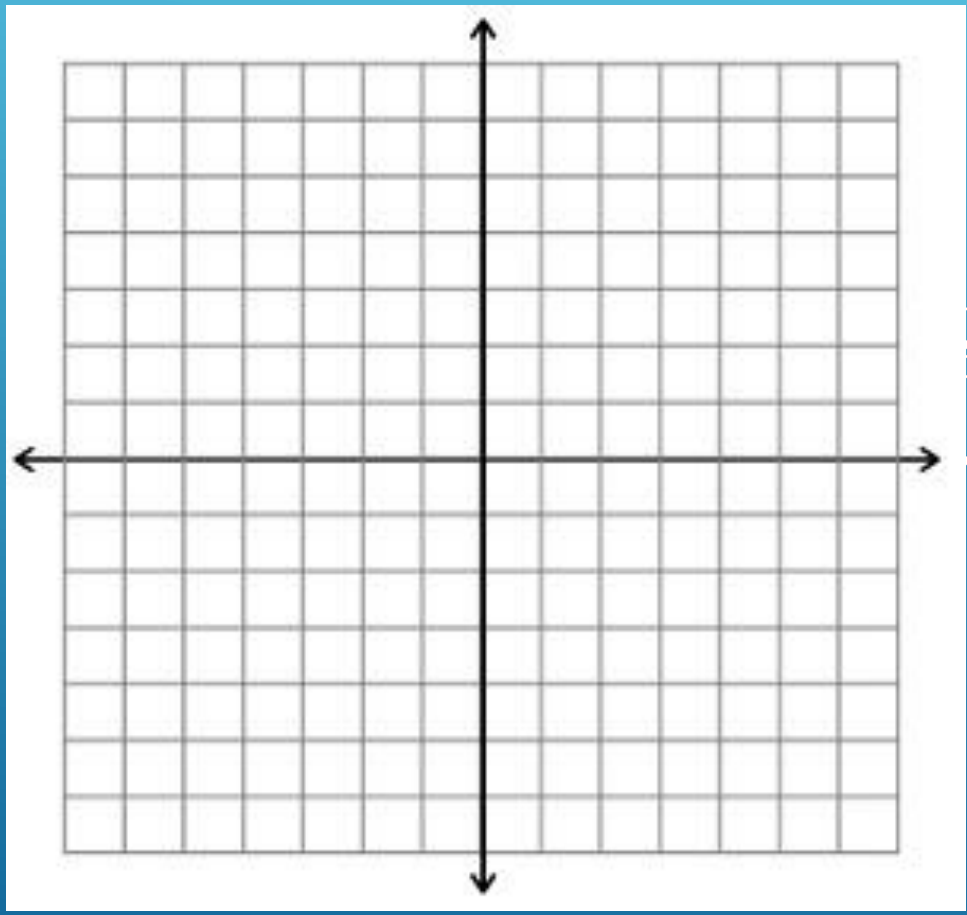
GEOMETRIC SEQUENCES

- Also a sequence and contains terms
- The terms increase or decrease by a constant and **common ratio= *r*.**
- **EX:** 128, 64, 32, 16, 8,…

Position, x					
Term, y					

- **General Formula:** $a_n = a_1 r^{n-1}$

- **What does the graph of the geometric sequence look like?**



GEOMETRIC VS. ARITHMETIC

Directions: Please identify if the sequence is **geometric** or **arithmetic**. Then, find the **general formula** for the sequence and the a_6 term of the sequence.

1. 3, 6, 9, 12, …

2. 4, -16, 64, -256, …

EXIT SLIP

1. Please list as many characteristics of Arithmetic sequences as you can.
2. Please list as many characteristics of a geometric sequence as you can.
3. Please compare and contrast the two sequences. List some similarities and differences between them.
4. Create your own geometric sequence that contains at least 4 terms.

HOMEWORK: Pg. 540 Problems 1-10