

**Let's Think! What would come next?**

Do Now: Find the pattern and fill in the missing numbers.

a) 4, 8, 16, _____, _____, _____

b) 4, 12, 36, _____, _____, _____

AIM: GEOMETRIC SEQUENCE

1. Identify a pattern in the sequence and then find the missing terms:

-2000, -1000, -500, _____, _____

Rule:

2. Identify a pattern in the sequence and then find the missing terms:

6, -18, 54, _____, _____

Rule:

In a _____, the amount by which the terms change each time is called the _____. The common ratio is represented by _____.

* In a geometric sequence, you are either _____ or _____ to find the next term!

3. Consider a sequence that follows 1, 3, 9...

a) What is the first term?

b) What is the common ratio?

Term Number "n"	Term

4. Consider a sequence that follows 160, 80, 40 ...

a) What is the first term?

b) What is the common ratio?

Term Number "n"	Term

5. Consider a sequence that follows 1, 5, 25, 125, 625,...

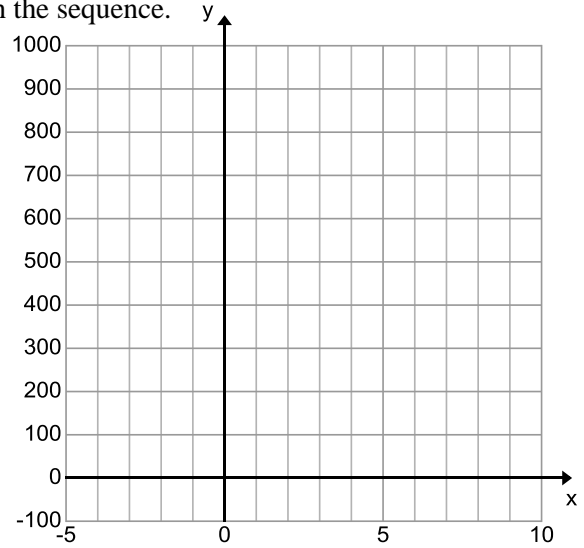
a) What is the first term?

b) What is the common ratio?

c) Fill in table.

d) Graph the sequence.

Term Number "n"	Term



*** Geometric Sequences follow an _____ pattern!**

6. Consider a sequence that follows 81, 27, 9, ...

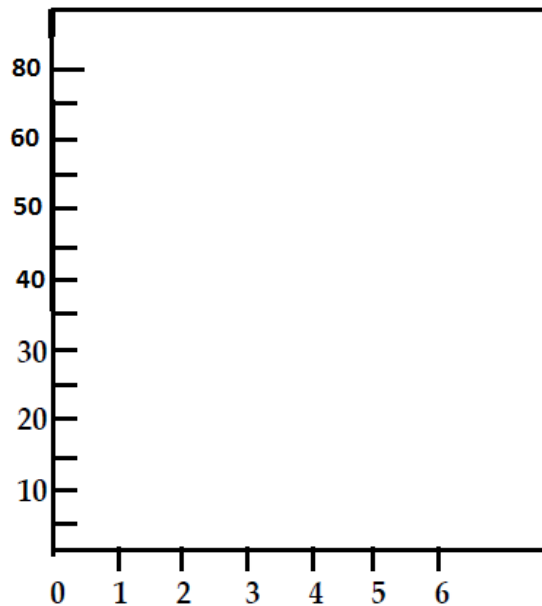
a) What is the first term?

b) What is the common ratio?

c) Fill in table.

d) Graph the sequence.

Term Number "n"	Term



What would the equation of these graphs be? ... **Hint: let's use our calculator!**

Rows 1, 2, and 3: Find the equation of #5 _____

Rows 4, 5, and 6: Find the equation of #6 _____

7. Determine whether each sequence is an arithmetic sequence, geometric sequence, or neither. If the sequence is arithmetic or geometric, state the common difference or common ratio.

Sequence	<u>A</u> rithmetic, <u>G</u> eometric, or <u>N</u> either (Write A,G, or N)	Common difference or Common ratio
A. 1, -4, 16, -64, ...		
B. 108, 66, 141, 99,		
C. -96, -48, -24, -12, ...		
D. 7, 13, 19, 25, ...		
E. 3, 9, 81, 6561, ...		

Name: _____

EXIT TICKET

1) Consider a sequence that follows 459, 153, 51, ...

- What is the first term?
- What is the common ratio?
- Find the next term.

2) What type of graph does an **arithmetic** sequence have?

3) What type of graph does a **geometric** sequence have?