Bell Work

Identify the pattern. Then find the next term in the sequence.

2. 5, 15, 45, 135, ...405

3. 81, 27, 9, 3, 1, ... 1 X3 5 1

4. -4, 16, -64, 256, ... 1024 X-4

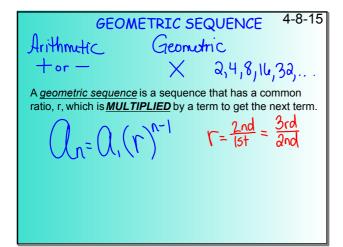
When you are finished, try to write a rule for the nth term. Do you notice a pattern?

(21)
$$1,1.25,1.50,...$$

$$S_{35} = \frac{25(1+7)}{2} \qquad (n=0,+(n-1)d) \\
(n=0,+(n-1$$

Apr 1-8:23 AM

Apr 8-9:30 AM



Decide whether the sequence is arithmetic,

geometric or neither.

(a) 2, 8, 32, 128, ...

(b) 1, 4, 9, 16, ... Ye Hur

(c) -3, 6, -18, 54, ... Ye Hur

(d) 5/3 \$ 7/3, 8/3, ... Yr

(e) -4, 4, 5, -5, ... Hur

(e) -4, 4, 5, -5, ... Hur

(f) 5/3 \$ 7/3, 8/3, ... Yr

(e) -4, 4, 5, -5, ... Hur

(f) 5/3 \$ 7/3, 8/3, ... Yr

(g) -4, 4, 5, -5, ... Hur

(h) 5/3 \$ 7/3, 8/3, ... Yr

(e) -4, 4, 5, -5, ... Hur

(f) 5/3 \$ 7/3, 8/3, ... Yr

(g) -4, 4, 5, -5, ... Hur

(h) 5/3 \$ 7/3, 8/3, ... Yr

(e) -4, 4, 5, -5, ... Hur

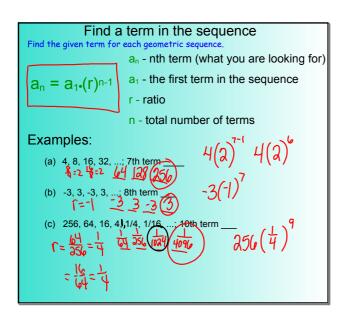
(f) 5/3 \$ 7/3, 8/3, ... Yr

(g) -4, 4, 5, -5, ... Hur

(h) 5/3 \$ 7/3, 8/3, ... Yr

(h) 6/3 \$ 7/3, 8/3, ... Yr

Apr 1-8:33 AM Apr 1-8:33 AM



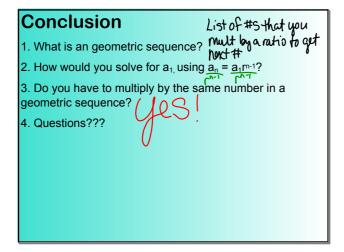
Sequence Strips Activity

- Get into groups of 2.
- Each group needs one envelope with sequence strips and one piece of paper.

GOAL: Organize the strips into three groups. (Arithmetic, Geometric and Neither)

- After organize find the rule that applies to each strip and find the next three terms.
- Write all your answers on your paper.

Apr 10-3:24 PM Apr 3-1:39 PM



Assignment:

Geometric Sequences WS

Apr 3-1:05 PM Apr 3-1:05 PM

GEOMETRIC SERIES

4-9-15

A <u>Geometric Series</u> is formed when the terms of a geometric sequence are added together.

$$S_n = a_1 \left(\frac{1 - r^n}{1 - r} \right)$$

You can continue the pattern then add or use the formula.

$$a_n = a_1 r^{n-1} \qquad S_n = a_1 \left(\frac{1 - r^n}{1 - r} \right)$$

Ex. 1 - Find S_9 for the series 5, 15, 45, 225, 1125 ...

Ex. 2 - Find S_8 for the series 1, -5, 25, -125, 625 ...

Ex. 3 - Find S_{10} for the series 80, 40, 20, 10, 5, 2.5 ...

Apr 1-10:13 AM

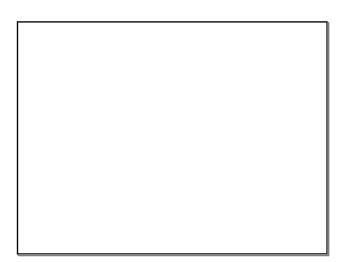
Apr 3-1:22 PM

Conclusion

- 1. What does S_n mean in a geometric series?
- 2. What must you do first when finding the sum if you do not know the last number in the sequence?
- 3. Questions???

Assignment:
Geometric Series WS

Apr 3-1:09 PM Apr 3-1:09 PM



Apr 3-1:47 PM