

Directions: Start with the bottom left cloud. Follow the arrows. When you get to a large star problem find the \*\*\* problem around the room. Complete your work and thinking on a big dry-erase board and leave work to be checked by Mr. Dien.

Try one of the following \*\*\* problems (Pink/Green) Leave your work and thinking on a big board to be checked.

Determine the number of terms (n) in each geometric series

17.)  $a_1 = -2, r = 5,$   
 $S_n = -62$

18.)  $a_1 = -3, r = 4,$   
 $S_n = -4095$

19.)  $a_1 = 27, r = -3,$   
 $S_n = -60$

20.)  $a_1 = -3, r = -2,$   
 $S_n = 63$

Try one of the following \*\*\* problems (Blue/White) Leave your work and thinking on a big board to be checked.

Evaluate the following Geometric Series:

13.)  $\sum_{n=1}^9 4 \cdot 3^{n-1}$

14.)  $\sum_{n=1}^8 2 \cdot (-2)^{n-1}$

15.)  $1 + 2 + 4 + 8 \dots, n = 6$

16.)  $1 - 4 + 16 - 64 \dots, n = 9$

State the first 6 terms in the sequence described below:

11.)  $\sum_{j=1}^8 (-6)^{j-1}$

12.)  $\sum_{n=1}^8 2 \cdot (-2)^{n-1}$

Complete the Yellow \*\*\* problem. Leave your work and thinking on a big board to be checked and move on.

Determine if the sequence is geometric. If it is, find the common ratio

1.)  $-1, 6, -36, 216, \dots$       2.)  $-1, 1, 4, 8, \dots$

3.)  $4, 15, 36, 64, \dots$       4.)  $-3, -15, -75, -375, \dots$

5.)  $\frac{1}{120}, \frac{1}{60}, \frac{1}{30}, \frac{1}{15}, \dots$       6.)  $\frac{3}{100}, \frac{-3}{20}, \frac{3}{4}, \frac{-15}{4}, \dots$

Find the general formula for the following geometric sequences:

7.)  $1, 3, 9, 27, 81, \dots$

8.)  $-2.5, 10, -40, 160, \dots$

9.)  $2, \frac{1}{2}, \frac{1}{8}, \frac{1}{32}, \dots$

10.)  $-4, -12, -36, -108, \dots$