Scavenger Hunt

Arithmetic and Geometric Sequences
Scavenger Hunt:

1. Print the slides. Post them alphabetically around the room. (They are currently in “answer” order.)
2. Assign the students to a “letter” card. (Note: Cards N, K, I and D are trickier.) -- Letter “J” was omitted because it looked too similar the “I”.
3. Students will work the problem on the left side of their assigned card. The answer to their card is in the circle on a different card.
4. Students will go to the corresponding “answer” card, record the letter, and work the problem on the left.
5. Student will continue until they reach the answer on the card on which they began.
Starting Letter

Arithmetic and Geometric
Scavenger Hunt

Name(s):  ____________________________
Answer Key

Loops

A
F
L
P
O
M
G
E
B
C
N
K
D
Write the formula for the following sequence.
Write the formula for the following sequence.

<table>
<thead>
<tr>
<th>x</th>
<th>y</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>4</td>
<td>54</td>
</tr>
</tbody>
</table>

\[ a_n = 10 + 5(n - 1) \]
Write the formula for the following sequence.

4, 12, 36, ...

\[ g_n = 2(3)^{n-1} \]
Write the formula for the following sequence.

4, 7, 10, ...

\[ g_n = 4(3)^{n-1} \]
Write the formula for the following sequence.

320, 80, 20, ...

\[ a_n = 4 + 3(n - 1) \]
Write the formula for the following sequence.

320, 316, 312, ...

\[ g_n = 320 \left(\frac{1}{4}\right)^{n-1} \]
Write the formula for the following sequence.

\[ a_n = 320 - 4(n - 1) \]
Determine the 8\textsuperscript{th} term for the following sequence.

5.8, 3.6, 1.4, ...

\[ g_n = 3(2)^{n-1} \]
B

Determine the 8\textsuperscript{th} term for the following sequence.

2, -8, 32, ...

$$a_8 = -9.6$$
Determine the 8\textsuperscript{th} term for the following sequence.

\[ a_1 = 4 \]
\[ d = \frac{1}{2} \]

\[ g_8 = -32,768 \]
Determine the 8\textsuperscript{th} term for the following sequence.

\( g_1 = 4 \)
\( r = \frac{1}{2} \)

\( a_8 = \frac{15}{2} \)
Brian gets a starting wage of $15 and an annual raise of $1.50 per hour. What will Brian’s hourly wage be during his tenth year?
A radioactive substance is reduced by half every hour. If there is 30 grams of the substance, how much is left after 6 hours?

Hint: 30 grams NOT the first term. It is the initial amount (zero term). How could you find the first term?
The number of infected zombies triples every hour. How many zombies are there after 6 hours if one zombie was initially infected?

**Hint:** 1 zombie NOT the first term. It is the initial amount (zero term). How could you find the first term?
The number of gallons of water in a 1500 gallon pool decreases by 25 gallons per hour. How much water is left after 24 hours?

Hint: 1500 gallons is NOT the first term. It is the initial amount (zero term). How could you find the first term?