

1. Given the sequence of numbers, answer the following:

-14, -22, -30, -38 ...

Circle one: Arithmetic Geometric Quadratic

Name the next 3 terms (round to the nearest hundredth, if necessary):

-46, -54, -62

Write a formula (For A & G only): see teacher

2. Given the sequence of numbers, answer the following:

-2, 2, 10, 22 ...

Circle one: Arithmetic Geometric Quadratic

Name the next 3 terms (round to the nearest hundredth, if necessary):

38, 58, 82

Write a formula (For A & G only): N/A

3. Given the sequence of numbers, answer the following:

10400, 2600, 650, 162.5 ...

Circle one: Arithmetic Geometric Quadratic

Name the next 3 terms (round to the nearest hundredth, if necessary):

40.625, 10.15625, 2.5390625

Write a formula (For A & G only): see teacher

4. I just climbed to the top of a huge cliff and have decided to throw my old calculator into the creek.

The following equation represents this situation where t is measured in seconds and $h(t)$ in feet:

$$h(t) = -16t^2 + 52t + 300$$

- What does the -16 represent in the equation? gravity
- What does the 52 represent in the equation? velocity
- What does the 300 represent in the equation? starting height
- How high off the ground is the calculator after 5 seconds? 160 ft.

5. On day two of the movie release, there were only 48 people that attended. On day 3, there were 76. On day 4, there were 104.

a. Is this an arithmetic or geometric sequence?

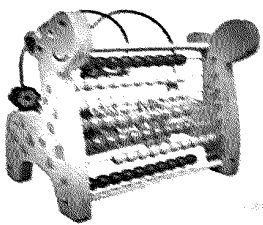
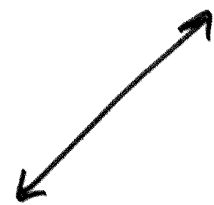
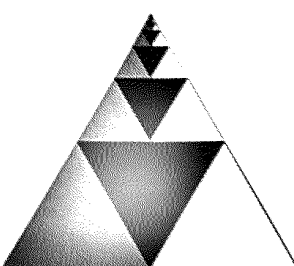
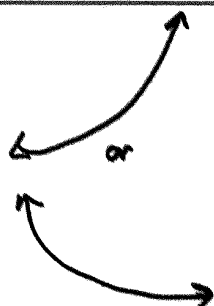



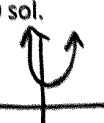
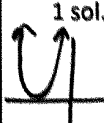



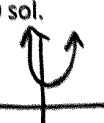
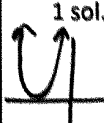



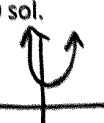
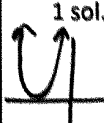
Arithmetic

Geometric

b. Write an equation to represent this situation. *see teacher*

c. If this pattern continued, how many people would attend on day 19? *524 people*

6. Fill in the blanks.

	Explain the pattern in each sequence:	The general formula (if known) is:	Sketch a graph of each sequence:						
<p>Arithmetic Sequence</p> 	<p><i>add or subtract constant rate</i></p>	<p>$A_n = A_0 \pm d \cdot n$</p>							
<p>Geometric Sequence</p> 	<p><i>multiply by the same number</i></p>	<p>$A_n = A_0 \cdot r^n$</p>							
<p>Quadratic Sequence</p> 	<p><i>2nd common difference (constant add or sub. the 2nd time)</i></p>	<p>$y = ax^2 + bx + c$</p>	<table border="1"> <tr> <td>'a' is pos. </td> <td>'a' is neg. </td> </tr> <tr> <td>0 sol. </td> <td>1 sol. </td> </tr> <tr> <td colspan="2">2 sol. </td> </tr> </table>	'a' is pos. 	'a' is neg. 	0 sol. 	1 sol. 	2 sol. 	
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