

What you need to know & be able to do	Things to remember	Examples	
13. Arithmetic & Geometric Sequences	<p>Arithmetic: Explicit: $a_n = a_1 + (n - 1)d$</p> <p>Recursive: $a_1 = \underline{\hspace{1cm}}$ $a_n = a_{n-1} + d$</p> <p>Geometric: Explicit: $a_n = a_1 \cdot r^{n-1}$</p> <p>Recursive: $a_1 = \underline{\hspace{1cm}}$ $a_n = r(a_{n-1})$</p> <p>You must always know your first term and the constant ratio/common difference to write an explicit formula!</p>	a. Create a simplified explicit and recursive formula for the following: -4, -9, -14, -19...	b. Create an explicit and recursive formula for the following: 81, 27, 9, 3,
		c. Determine the 9 th term in the sequence: 5, 15, 45,	d. Given the sequence -3, 0, 3, 6... find the 32 nd term.
		e. Determine the first five terms of the sequence: $a_n = -2 \cdot 3^{n-1}$	f. Determine the first five terms of the sequence: $a_1 = 6$ $a_n = \frac{1}{2}(a_{n-1})$
		g. Determine the first five terms of the sequence: $a_1 = 7$ $a_n = a_{n-1} - 3$	h. Determine the first five terms of the sequence: $a_n = -5n + 2$.

		<p>i. Write the explicit formula given the following arithmetic sequence: $a_4 = 6$ and $a_5 = 2$</p>	<p>j. Write the explicit formula given the following geometric sequence: $a_3 = -18$ and $a_4 = -54$</p>
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<p>14. Sequence Applications</p>		<p>a. The table shows a car's value for 3 years after it is purchased. a. Does this table form an arithmetic or geometric sequence? Explain how you know.</p> <table border="1" data-bbox="1226 693 1550 871"> <thead> <tr> <th>Year</th> <th>Value (\$)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>18,000</td> </tr> <tr> <td>2</td> <td>15,300</td> </tr> <tr> <td>3</td> <td>13,005</td> </tr> </tbody> </table> <p>b. Create an explicit formula to represent the table.</p> <p>c. How much is the car worth after 8 years?</p>	Year	Value (\$)	1	18,000	2	15,300	3	13,005
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