

Name: _____ Period: _____

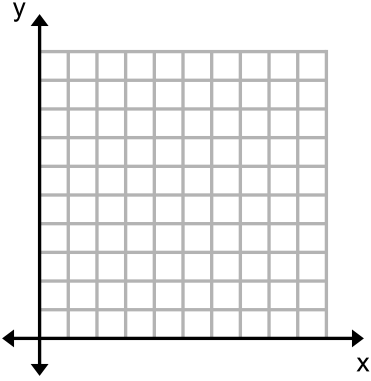
Score: _____ / _____ %

HW 3-5 HONORS: Multiple Representations of Sequences

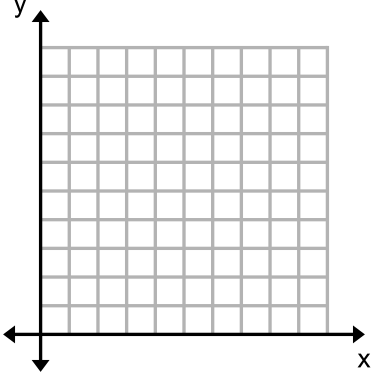
1. What are the differences between arithmetic and geometric sequences

Use the following information to complete the other representations of the sequence.

2.

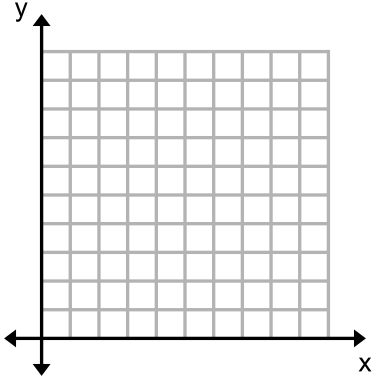
<p>Table:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Days</th> <th>Cost</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>8</td> </tr> <tr> <td>2</td> <td>16</td> </tr> <tr> <td>3</td> <td>24</td> </tr> <tr> <td>4</td> <td>32</td> </tr> </tbody> </table>	Days	Cost	1	8	2	16	3	24	4	32	<p>Graph:</p> 
Days	Cost										
1	8										
2	16										
3	24										
4	32										
<p>Recursive Equation:</p>	<p>Explicit Equation:</p>										
<p>Create a Context:</p>											

3.

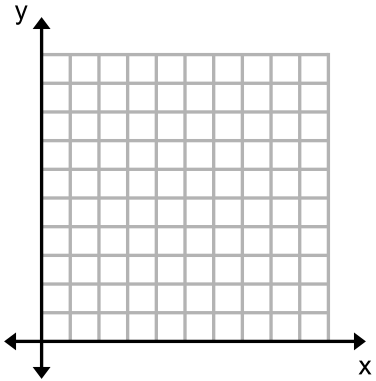
<p>Table:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td style="background-color: #e0e0e0;"></td> <td style="background-color: #e0e0e0;"></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>											<p>Graph:</p> 
<p>Recursive Equation:</p> $f(1) = 4; f(n) = f(n-1) + 3$	<p>Explicit Equation:</p>										
<p>Create a Context:</p>											

Use the following information to complete the other representations of the sequence.

4.

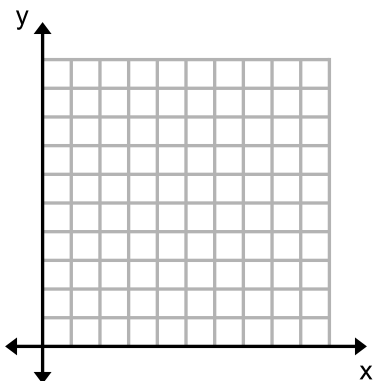
<p>Table:</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">x</th> <th style="padding: 5px;">y</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">1</td> <td style="padding: 5px;">32</td> </tr> <tr> <td style="padding: 5px;">2</td> <td style="padding: 5px;">16</td> </tr> <tr> <td style="padding: 5px;">3</td> <td style="padding: 5px;">8</td> </tr> <tr> <td style="padding: 5px;">4</td> <td style="padding: 5px;">4</td> </tr> </tbody> </table>	x	y	1	32	2	16	3	8	4	4	<p>Graph:</p> 
x	y										
1	32										
2	16										
3	8										
4	4										
<p>Recursive Equation:</p>	<p>Explicit Equation:</p>										
<p>Create a Context:</p>											

5.

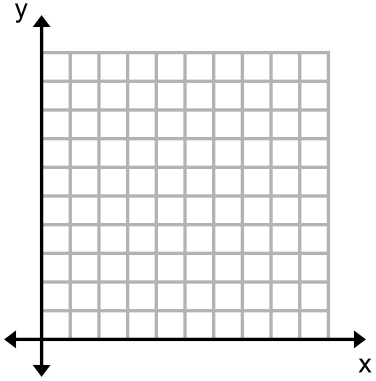
<p>Table:</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">x</th> <th style="padding: 5px;">y</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;"> </td> <td style="padding: 5px;"> </td> </tr> <tr> <td style="padding: 5px;"> </td> <td style="padding: 5px;"> </td> </tr> <tr> <td style="padding: 5px;"> </td> <td style="padding: 5px;"> </td> </tr> <tr> <td style="padding: 5px;"> </td> <td style="padding: 5px;"> </td> </tr> </tbody> </table>	x	y									<p>Graph:</p> 
x	y										
<p>Recursive Equation:</p>	<p>Explicit Equation:</p>										
<p>Create a Context:</p> <p>Janet wants to know how many seats are in each row of the theater. Jamal lets her know that each row has 2 seats more than the row in front of it. The first row has 14 seats.</p>											

Use the following information to complete the other representations of the sequence.

6.

<p>Table:</p> <table border="1" style="margin: 20px auto; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #e0e0e0;"> <th style="padding: 5px;">x</th> <th style="padding: 5px;">y</th> </tr> </thead> <tbody> <tr><td style="height: 20px;"> </td><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td><td style="height: 20px;"> </td></tr> </tbody> </table>	x	y									<p>Graph:</p> 
x	y										
<p>Recursive Equation:</p>	<p>Explicit Equation:</p> $f(n) = 4g5^{n-1}$										
<p>Create a Context:</p>											

7.

<p>Table:</p> <table border="1" style="margin: 20px auto; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #e0e0e0;"> <th style="padding: 5px;">x</th> <th style="padding: 5px;">y</th> </tr> </thead> <tbody> <tr><td style="height: 20px;"> </td><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td><td style="height: 20px;"> </td></tr> <tr><td style="height: 20px;"> </td><td style="height: 20px;"> </td></tr> </tbody> </table>	x	y									<p>Graph:</p> 
x	y										
<p>Recursive Equation:</p>	<p>Explicit Equation:</p>										
<p>Create a Context:</p> <p>Sarah's savings account currently has \$200. Each month she doubles her money in her savings account. What is the balance at the end of each month?</p>											

Given the recursive equation, find the explicit equation.

8. $f(x) = f(x-1) + 4; f(1) = -3$

10. $f(x) = f(x-1) - 5; f(-3) = -2$

9. $f(x) = f(x-1) \cdot 2; f(1) = 9$

11. $f(x) = \frac{1}{3} f(x-1); f(-4) = 10$

Given the explicit equation, find the recursive equation.

12. $f(x) = 6 \cdot 4^{x-5}$

14. $f(n) = -9 \cdot \left(\frac{1}{5}\right)^{n+8}$

13. $f(x) = -8x + 11$

15. $f(x) = 5 - 9(x + 13)$