Name: _____ Period: _____

Score: _____/_____ _____%

HW 3-5 HONORS: Multiple Representations of Sequences

1. What are the differences between and arithmetic and geometric sequences

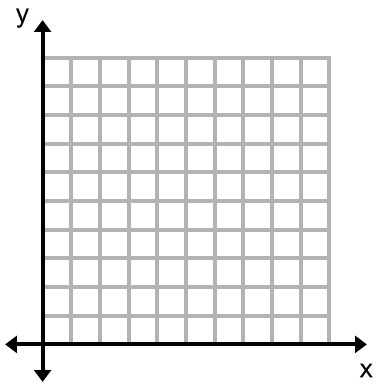
Use the following information to complete the other representations of the sequence.

2.

Table:

Days	Cost
1	8
2	16
3	24
4	32

Graph:



Recursive Equation:

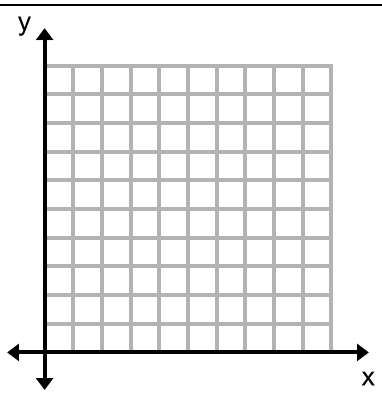
Explicit Equation:

Create a Context:

3.

Table:

Graph:



Recursive Equation:

$$f(1)=4;\ f(n)=f(n-1)+3$$

Explicit Equation:

Create a Context:

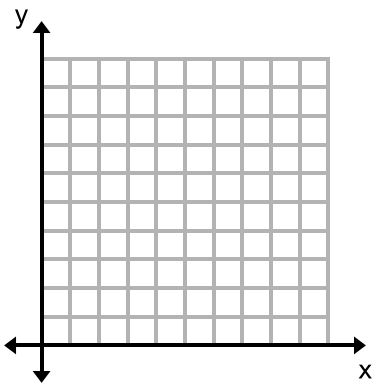
Use the following information to complete the other representations of the sequence.

4.

Table:

x	*y*
1	32
2	16
3	8
4	4

Graph:



Recursive Equation:

Explicit Equation:

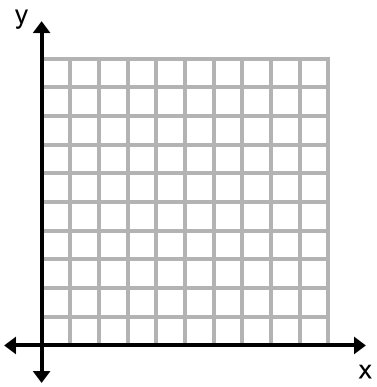
Create a Context:

5.

Table:

x	*y*

Graph:



Recursive Equation:

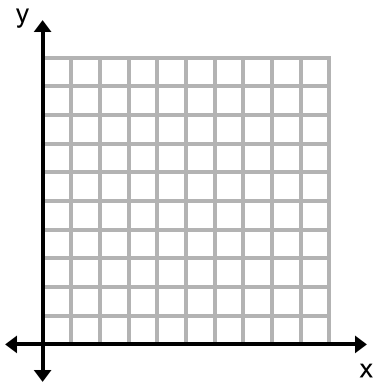
Explicit Equation:

Create a Context:

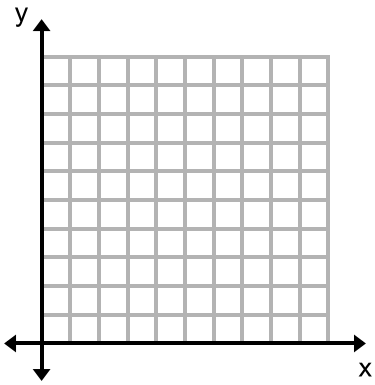
Janet wants to know how many seats are in each row of the theater. Jamal lets her know that each row has 2 seats more than the row in front of it. The first row has 14 seats.

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

6.

Table:	**Graph:**
<table><tr><th>*x*</th><th>*y*</th></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></table>	
Recursive Equation:	**Explicit Equation:** $f(n) = 4 \cdot 5^{n-1}$
Create a Context:	

7.

Table:	**Graph:**
<table><tr><th>*x*</th><th>*y*</th></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></table>	
Recursive Equation:	**Explicit Equation:**
Create a Context: 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?	

Given the recursive equation, find the <u>explicit equation</u>.

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

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

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

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

Given the explicit equation, find the <u>recursive equation</u>.

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

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

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

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