

Algebra 1 Chapter 8 Test Part 2 Review

Determine whether each sequence is arithmetic or geometric. Write the explicit and recursive formula for each question.

1. -8, -10, -12.5, -15.625, *geometric*
 Explicit: $a_n = -8 \cdot (1.25)^{n-1}$

Recursive: $a_1 = -8$ $a_n = a_{n-1} \cdot 1.25$

2. 1, 2/5, 4/25, 8/125, *geo*
 Explicit: $a_n = 1 \cdot (1/5)^{n-1}$

Recursive: $a_1 = 1$ $a_n = a_{n-1} \cdot (1/5)$

3. 8, 11, 14, *Arithmetic*

Explicit: $a_n = 3n + 5$

Recursive: $a_1 = 8$ $a_n = a_{n-1} + 3$

4. 11, 5, -1, -7,
 Explicit: $a_n = -6n + 17$

Recursive: $a_1 = 11$ $a_n = a_{n-1} - 6$

5. Find the first, third, and tenth terms of the following sequence $t_n = \frac{1}{2}(-4)^{n-1}$. Show all your work!

$\frac{1}{2}, 8,$ ~~$16, 32, 64, 128, 256, 512, 1024$~~
 -131072

Convert from Recursive to Explicit.

6. $t_1 = 3$

$t_n = t_{n-1} + 5$

$t_n = 5n - 2$

7. $a_1 = 7$

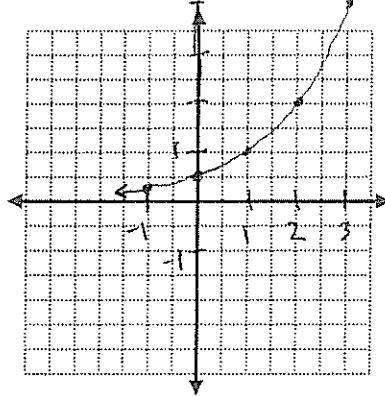
$a_n = a_{n-1} \cdot 4$

$t_n = 7 \cdot 4^{n-1}$

Graph the function. Make sure you identify your intervals on the axes.

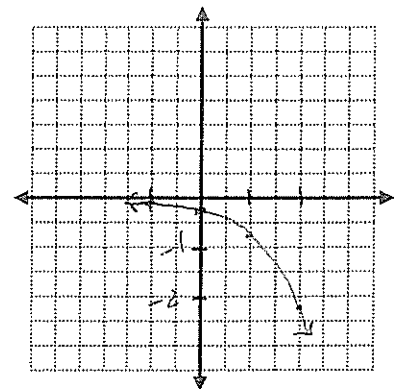
7. $y = \frac{1}{2} \cdot (2)^x$

0	1/2
-1	1/4
1	1
2	2
3	4



8. $y = -\frac{1}{4} \cdot (3)^x$

0	-1/4
1	-3/4
2	-2 1/4
-1	-1/12



Evaluate the function using the following domain $\{-2, 1, 3\}$. Show work! No decimal answers.

9. $f(x) = 2 \cdot 4^x$

$2 \cdot 4^{-2} = \frac{2}{16}$ or $(\frac{1}{8})$

$2 \cdot 4^1 = (8)$

$2 \cdot 4^3 = 2 \cdot 64 = (128)$