

* Algebra Sequence Test Review

Name: _____

Given the following formulas, find the first 4 terms.

Period: _____

1. $t_1 = 0$

$t_{n+1} = t_n - 8$

____, ____, ____, ____

2. $t_1 = -4$

$t_{n+1} = t_n + 4$

____, ____, ____, ____

3. $t_1 = 8$

$t_{n+1} = t_n - 2$

____, ____, ____, ____

4. $t_n = 4n - 5$

____, ____, ____, ____

5. $t_n = 3n + 1$

____, ____, ____, ____

6. $t_n = -6n + 4$

____, ____, ____, ____

7. Write an explicit and recursive formula for the following sequences.

a. -2, -4, -6, -8...

Explicit: _____

Recursive: _____

b. 96, 85, 74, 63...

Explicit: _____

Recursive: _____

c. 20, 13, 6, -1...

Explicit: _____

Recursive: _____

d. 6, 23, 40, 57...

Explicit: _____

Recursive: _____

e. 14, 28, 56, 112....

Geometric: $t(n) =$ _____

f. 30, 45, 67.5....

Geometric: $t(n) =$ _____

Given the recursive formula, write the explicit formula for the sequence.

8. $t_1 = 0$
 $t_{n+1} = t_n + 7$

9. $t_1 = 8$
 $t_{n+1} = t_n - 3$

Given the explicit formula, write the recursive formula for the sequence.

10. $t_n = 4n - 2$

11. $t_n = -6n + 1$

12. Write equations to solve each of the following problems

a. When Mr. Franklin bought his new car, it cost \$35,500. Each year it lost 20% of its value. What will Franklin's car be worth in 15 years?

b. Each year the population in Douglas County increases by 15%. The population is currently 306,000. What will the population be in 20 years?

a. equation:

cars value in 15 years:

b. equation:

population in 20 years:

13. Use the given information to find an equation of the line.

a. Slope = 5, through (3,13).

a.

b. Passing through (1,3) and (-5,-15)

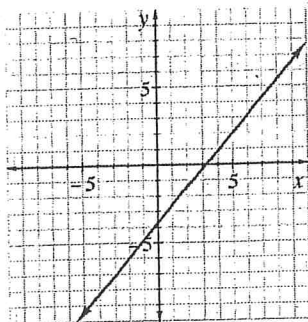
b.

c.

x	5	3	0	1	2
y	7	11	2	5	8

c.

d.



d.