

Secondary 1H ~ 4.1 Arithmetic Sequences

Name: _____ Period: _____

1-8 Simplify.

1. 3^1 2. 3^2 3. 3^3 4. 3^4
5. -3^2 6. $(-3)^2$ 7. -3^3 8. $(-3)^3$
9. $f(x) = 2^x$; find $f(1)$, $f(2)$, and $f(3)$. 10. $g(x) = 3^x$; find $g(1)$, $g(2)$, and $g(3)$.
11. $h(x) = 2(x - 1) + 3$; find $h(1)$, $h(2)$, and $h(3)$.

12 – 13 Complete each table to continue the pattern. Write the recursive and explicit equations.

12.

Term	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th
Value	66	50	34	18				

Write the recursive rule

Write the explicit equation

13.

Term	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th
Value	-9	-2	5	12				

Write the recursive rule

Write the explicit equation

14- 16 Fill in table. Then, write a sentence explaining how you figured out the values to put in each cell. Also, explain how to figure out what will be in cell #8, if there was an eighth cell. Write the recursive and explicit equations.

14. You run a business making birdhouses. You spend \$600.00 to start your business, and your cost to make each birdhouse is \$5.00.

Number of birdhouses built	1	2	3	4	5	6	7
Total cost to build							

Explanations:

Write the recursive rule

Write the explicit equation

15. You borrow \$500.00 from a relative, and you agree to pay back the debt at a rate of \$15.00 per month.

Number of months	1	2	3	4	5	6	7
Amount of money owed							

Explanations:

Write the recursive rule

Write the explicit equation

16. You earn \$15 per week.

Number of weeks	1	2	3	4	5	6	7
Amount of money earned							

Explanations:

Write the recursive rule

Write the explicit equation

Use the sequence $3, 7, 11, 15, 19, \dots$ to answer questions 17- 22.

17. What term has a value of 15?

18. $f(3) =$

19. What is the common difference?

20. $f(6) =$

21. Write the RECURSIVE FORM of the rule. (Remember, two equations.)

22. Write the EXPLICIT equation.