ALGEBRA I // MODULE 1

SEQUENCES – 1.3

1.3

READY, SET, GO! Name Period Date

READY

A) Use the given table to identify the indicated value for n. B) Then using the value for n that you determined in A, use the table to find the indicated value for B.

n	1	2	3	4	5	6	7	8	9	10
$f(n)$	-8	-3	2	7	12	17	22	27	32	37

1. A) When $f(n) = 12$, what is the value of n?

   B) What is the value of $f(n-1)$?

2. A) When $f(n) = 17$, what is the value of n?

   B) What is the value of $f(n-1)$?

3. A) When $f(n) = 32$, what is the value of n?

   B) What is the value of $f(n+1)$?

4. A) When $f(n) = 2$, what is the value of n?

   B) What is the value of $f(n+3)$?

5. A) When $f(n) = 27$, what is the value of n?

   B) What is the value of $f(n-6)$?

6. A) When $f(n) = -8$, what is the value of n?

   B) What is the value of $f(n+9)$?

SET

Use the given information to decide which equation will be the easiest to use to find the indicated value. Find the value and explain your choice.

7. Explicit equation: $y = 3x + 7$
   Recursive: $now = previous\ term + 3$

term #	1	2	3	4
value	10	13	16	

   Find the value of the 4th term.

   _____
   Explanation:

8. Explicit equation: $y = 3x + 7$
   Recursive: $now = previous\ term + 3$

term #	1	2	3	4
value	10	13	16	

   Find the value of the 50th term.

   _____
   Explanation:

9. The value of the 8th term is 78. The sequence is increasing by 10 at each step.

   Explicit equation: $y = 10x - 2$
   Recursive: $now = previous\ term + 10$

   Find the value of the 20th term.

   _____
   Explanation:

10. The value of the 8th term is 78. The sequence is increasing by 10 at each step.

    Explicit equation: $y = 10x - 2$
    Recursive: $now = previous\ term + 10$

    Find the value of the 9th term.

    _____
    Explanation:

11. The value of the 4th term is 80. The sequence is being doubled at each step.

    Explicit equation: $y = 5(2^x)$
    Recursive: $now = previous\ term \cdot 2$

    Find the value of the 5th term.

    _____
    Explanation:

12. The value of the 4th term is 80. The sequence is being doubled at each step.

    Explicit equation: $y = 5(2^x)$
    Recursive: $now = previous\ term \cdot 2$

    Find the value of the 7th term.

    _____
    Explanation:

GO

Evaluate the following equations when x = { 1, 2, 3, 4, 5 }. Organize your inputs and outputs into a table of values for each equation. Let x be the input and y be the output.

13. $y = 4^x$

x Input	y Output
1	
2	
3	
4	
5	

14. $y = (-3)^x$

x Input	y Output
1	
2	
3	
4	
5	

15. $y = -3^x$

x Input	y Output
1	
2	
3	
4	
5	

16. $y = 10^x$

x Input	y Output
1	
2	
3	
4	
5	

17. If $f(n) = 5^n$, what is the value of $f(4)$?