

READY, SET, GO!

Name \_\_\_\_\_

Period \_\_\_\_\_

Date \_\_\_\_\_

**READY**

Topic: Interpreting function notation

**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

- A) When  $f(n) = 12$ , what is the value of  $n$ ?  
B) What is the value of  $f(n - 1)$ ?
- A) When  $f(n) = 17$ , what is the value of  $n$ ?  
B) What is the value of  $f(n - 1)$ ?
- A) When  $f(n) = 32$ , what is the value of  $n$ ?  
B) What is the value of  $f(n + 1)$ ?

- A) When  $f(n) = 2$ , what is the value of  $n$ ?  
B) What is the value of  $f(n + 3)$ ?
- A) When  $f(n) = 27$ , what is the value of  $n$ ?  
B) What is the value of  $f(n - 6)$ ?
- A) When  $f(n) = -8$ , what is the value of  $n$ ?  
B) What is the value of  $f(n + 9)$ ?

**SET**

Topic: Comparing explicit and recursive equations

**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.**

<p>7. Explicit equation: <math>y = 3x + 7</math> Recursive: <math>now = previous\ term + 3</math></p> <table border="1"> <tr> <td>term #</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>value</td> <td>10</td> <td>13</td> <td>16</td> <td></td> </tr> </table> <p>Find the value of the 4<sup>th</sup> term. _____ Explanation:</p>	term #	1	2	3	4	value	10	13	16		<p>8. Explicit equation: <math>y = 3x + 7</math> Recursive: <math>now = previous\ term + 3</math></p> <table border="1"> <tr> <td>term #</td> <td>1</td> <td>2</td> <td>...</td> <td>50</td> </tr> <tr> <td>value</td> <td>10</td> <td>13</td> <td>...</td> <td></td> </tr> </table> <p>Find the value of the 50<sup>th</sup> term. _____ Explanation:</p>	term #	1	2	...	50	value	10	13	...	
term #	1	2	3	4																	
value	10	13	16																		
term #	1	2	...	50																	
value	10	13	...																		

<p>9. The value of the 8<sup>th</sup> term is 78. The sequence is increasing by 10 at each step.</p> <p>Explicit equation: <math>y = 10x - 2</math> Recursive: <math>now = previous\ term + 10</math></p> <p>Find the 20<sup>th</sup> term. _____ Explanation:</p>	<p>10. The value of the 8<sup>th</sup> term is 78. The sequence is increasing by 10 at each step.</p> <p>Explicit equation: <math>y = 10x - 2</math> Recursive: <math>now = previous\ term + 10</math></p> <p>Find the 9<sup>th</sup> term. _____ Explanation:</p>
<p>11. The value of the 4<sup>th</sup> term is 80. The sequence is being doubled at each step.</p> <p>Explicit equation: <math>y = 5(2^x)</math> Recursive: <math>now = previous\ term * 2</math></p> <p>Find the value of the 5<sup>th</sup> term. _____ Explanation:</p>	<p>12. The value of the 4<sup>th</sup> term is 80. The sequence is being doubled at each step.</p> <p>Explicit equation: <math>y = 5(2^x)</math> Recursive: <math>now = previous\ term * 2</math></p> <p>Find the value of the 7<sup>th</sup> term. _____ Explanation:</p>

**GO**

Topic: Evaluating Exponential Equations

**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.  $y = 4^x$

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

15.  $y = -3^x$

16.  $y = 10^x$

$x$ <i>input</i>	$y$ <i>output</i>
1	
2	
3	
4	
5	

$x$ <i>input</i>	$y$ <i>output</i>
1	
2	
3	
4	
5	

$x$ <i>input</i>	$y$ <i>output</i>
1	
2	
3	
4	
5	

$x$ <i>input</i>	$y$ <i>output</i>
1	
2	
3	
4	
5	

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