## Function Notation Evaluate y = 5x + 1 when x = 2 y = 5(2) + 1 y = 10 + 1y=11 $(x,y) \rightarrow (2,11)$ (2,11) $\leftarrow (n,F(n))$ forn f(n) = 5n+1 find f(2) f(2)=5(2)+1 Value of the function at 2? = 10+1 f(2) = 11 Given f(n)=8n-3 and g(n)=3n-10, evaluate the following. 1) $f(5) = 8\tilde{n} - 3$ 2) $g(5) = 3\tilde{n} - 10$ = 3(5) - 10= 40-3 =15-10 F(5)=37

5) +(6) = 81-3 6) q(0)=3n-10 = 8(0) - 3-3(0)-10 =0-3 F(0)=-39(0)=-10 Sequence - A list of numbers Ex: 1,5,9,13" Term-each number in a sequence Arithmetic Sequence - Add the sume # to each term to get the next term. Ex: 1,5,9,13,...

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Common ence

Accommon ence Common Difference - The amount repeatedly added in a sequence

## READY

Topic: Using function notation

To **evaluate** an equation such as y = 5x + 1 when given a specific value for x, replace the variable x with the given value and work the problem to find the value of y.

**Example:** Find y when x = 2. Replace x with 2. y = 5(2) + 1 = 10 + 1 = 11.

Therefore, y = 11 when x = 2. The point (2, 11) is one solution to the equation y = 5x + 1. Instead of using x and y in an equation, mathematicians often write f(n) = 5n + 1 because it can give more information. With this notation, the direction to find f(2), means to replace the value of n with 2 and work the problem to find f(n). The point (n, f(n)) is in the same location on the graph as (x, y), where n describes the location along the x-axis, and f(n) is the height of the graph.

Given that f(n) = 8n - 3 and g(n) = 3n - 10, evaluate the following functions with the indicated values.

1. 
$$f(5) =$$

$$= 2. g(5) = (1-2)S + 2 = s(5)$$

3. 
$$f(-4) =$$

4. 
$$g(-4) =$$

5. 
$$f(0) =$$

6. 
$$a(0) =$$

5. 
$$f(0) =$$
 6.  $g(0) =$  7.  $f(1) =$  8.  $g(1) =$ 

5. 
$$f(0) =$$
 6.  $g(0) =$  7.  $f(1) =$  8.  $g(1) =$ 

Complete each table by looking for the pattern.

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1st	2nd	3rd	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	1 svods
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12.	Term	1 st	2nd	3rd	4th	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>
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	Value	-9	-2						

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