Writing and Evaluating Functions Class Work

Solutions of the state of the s functions, and evaluate functions for specific inputs.

*One of the equations below is a function. Work with your partner to determine which equation is a function.

 $y = \pm \sqrt{(x+5)}$ y = 3x - 2x = 1

*Another notation that we can use to represent this function is...

Why use this notation?!

*What is the difference between y = 3x + 2 and f(x) = 3x + 2?

- rightarrow Consider the function f(x) = 3x + 2.
- 1. What happens when x = 6? 2. What happens when x = w + 1?

3. Evaluate each.

a. f(-2)	b. f(m ²)	c. f(q-2)	d. 2f(-3)
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Writing and Evaluating Functions Class Work

Objective: You will be able to model situations by writing functions, analyze functions, and evaluate functions for specific inputs.

➢ Function Notation:

f(x) is read as...

We use this notation to represent function rules. Be aware that functions can be named with ANY letter, not always f! For example, circumference of a circle may be given as c(r), since it is a function of the radius of the circle.

COMMON ERROR ANALYSIS:

Given $h(x) = 2x^2 - x + 3$, a student claims that $h(n^2)$ simplifies to $h \cdot n^2$. This student applied his/her knowledge of parentheses in mathematics incorrectly. Describe and correct the students' error.

➢ Practice Evaluating Functions

Provided with the following functions, determine each.

 $p(x) = \frac{3}{x} + 4 \qquad q(b) = 3b^2 - 2b + 1 \qquad j(k) = -\frac{1}{4}k + \frac{3}{4} \qquad h(d) = \frac{2}{3}(d+2)^2$ 1. p(0) 2. p(6x) 3. h(1)

4. $q(x^3)$ 5. 3j(20) 6. 2p(-18)

7. q(m+1)8. $j(-\frac{1}{2}k)$ 9. 3p(3)

Name:		Date:	Unit 3 Class Work	
$p(x) = \frac{3}{x} + 4$	$q(b) = 3b^2 - 2b + 1$	$j(k) = -\frac{1}{4}k + \frac{3}{4}$	$h(d) = \frac{2}{3}(d+2)^2$	
10. q(-1)	11. $q(2c^2)$	12. j(4 ³)		
13. h(d + 2)	14. h(-8)	15. Choo	se a value for x that would	

➢ Practice Evaluating Functions (from graphs) Remember, _____ = _____ *Examples: 1. g(-1) = _____ because... - 1 -2 -1 -1 -2 2. c() = 3-3 -4 because... g(x) C(X)

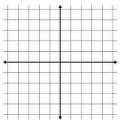
- Now You Try Some! Determine each of the following.

4. 2c(-1) = ____ 5. c(___) = 0 6. c(0) = ___ 3. g(0) = ____

7. g(__) = 8 8. -8g(-10) = ___ 9. c(__) = -3

result in p(x) = 3

10. Sketch any graph for a function f(x), for which f(-1) = -2, and f(x) > 0 on the interval [0, 3]



HOMEWORK p. 59-60 #23-29 odd, 46, 50, 51, & 53 AND THIS PROBLEM: The cost of frozen yogurt depends on the number of ounces of yogurt purchased. Explain why this situation can be modeled by a function. If each ounce costs 35 cents, write a function to model the cost for z ounces of frozen yogurt.

CLOSER:

State any <u>Concept</u> you <u>Learned</u> today

Show <u>One Specific Example</u>

How is this concept **<u>Relevant</u>**, or how do you believe it will be in the future?