

NAME _____

DATE _____

Module 9 Using Functions
Lesson 2 Evaluating Functions

independent practice

For the set of ordered pairs $\{(0, -1), (-1, 2), (2, 3), (4, 0), (3, 4)\}$, name the output associated with the given input.

1. input: 2 output: _____ 2. input: 3 output: _____
 3. input: 0 output: _____ 4. input: 4 output: _____

For the set of ordered pairs $\{(0, -5), (6, -2), (-5, 3), (-2, 0), (3, 6)\}$, name the input associated with the given output.

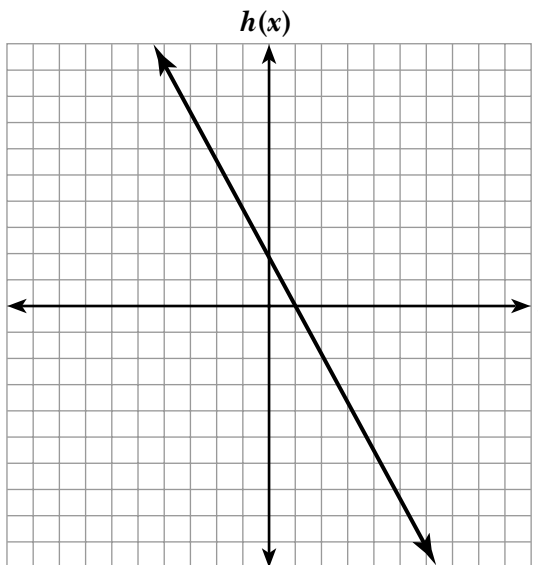
5. output: -2 input: _____ 6. output: 3 input: _____
 7. output: 6 input: _____ 8. output: 0 input: _____

Evaluate.

9. $t(2)$ if $t(x) = -x + 4$ _____ 10. $d(-6)$ if $d(x) = x + 8$ _____
 11. $c(-1)$ if $c(x) = x^2 - 3x + 2$ _____ 12. $h(4)$ if $h(x) = x^2 - 4x - 2$ _____
 13. $g(5)$ if $g(x) = 10$ _____ 14. $f(-3)$ if $f(x) = 0$ _____
 15. $h(4)$ if $h(x) = \sqrt{x^2 - 7}$ _____ 16. $g(-2)$ if $g(x) = \sqrt{5x + 11}$ _____
 17. $m(2)$ if $m(x) = \frac{3x}{x - 4}$ _____ 18. $s(-4)$ if $s(x) = \frac{x - 5}{x + 5}$ _____

Use the graph of $h(x)$ to find each value.

19. $h(-1) =$ _____
 20. $h(0) =$ _____
 21. $h(2) =$ _____
 22. $h(3) =$ _____
 23. Use the graph of $h(x)$ to write the equation of the line as a function. _____



© 2003 BestQuest



Use the equation found in exercise 23 on previous page to evaluate the function at the given function values. Then, use the graph to find the given values and compare answers.

24. $h(-2) =$ _____ 25. $h(1) =$ _____ 26. $h(4) =$ _____ 27. $h(-3) =$ _____

Journal

1. Explain how to identify the output associated with a given input when given a set of ordered pairs. Explain how to identify the input associated with a given output when given a set of ordered pairs.
2. In a function, is it possible for a given output to be associated with more than one input? Explain.
3. After missing a day of class, a student reads the notation $f(x)$ as “ f times x .” Explain and correct their mistake.
4. To find the number of tires, t , needed to build c cars, a car manufacturer wrote the function $t(c) = 5t$ to show that each car requires five tires (including a spare). Identify and correct the error in the use of function notation.
5. Explain what is meant by a *constant function*. How is a constant function evaluated? Give examples to support your explanation.

Cumulative Review

For each table, use the rule to find the missing values.

1. rule: $y = x$

x	y
1	
4	
	-3
	0

2. rule: $y = x + 4$

x	y
0	
4	
	6
	2

3. rule: $y = x^2 + 1$

x	y
0	
3	
	5
	17

4. rule: $y = |x| + 4$

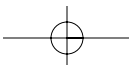
x	y
-4	
-1	
	7
	5

5. rule: $y = \sqrt{x}$

x	y
1	
4	
	3
	5

6. rule: $y = \frac{x}{4}$

x	y
4	
10	
	$\frac{1}{2}$
	4



Find the slope of the line containing the given pair of points.

7. $(3, -4)$ and $(-2, 0)$ _____ 8. $(-3, 1)$ and $(3, 4)$ _____

Write the equation of the line through the given pair of points.

9. $(0, 2)$ and $(4, 4)$ _____ 10. $(3, 5)$ and $(2, 7)$ _____

