NAME _____   DATE _____

Module 9   Using Functions
Lesson 2   Evaluating Functions

guided notes

Lesson Objectives

- When a set of ordered pairs is given, determine the output associated with a given input, and determine the input associated with a given output.
- Read and write the function notation $f(x)$.
- Evaluate a function $f(x)$ when a specific value of x is given.
- Use the graph of a function to determine input and output values.

A function is like a machine that uses a rule to create outputs when inputs are entered.

In the ordered pair (x, y), x is the _____, and y is the

_____.

The _____ is the set of inputs.

The _____ is the set of outputs.

For questions 1 and 2, use the set of ordered pairs shown below.

$$\{(2, 4), (3, 5), (5, 6), (6, 10), (8, 2), (10, 3)\}$$

1 ▸ Find the output associated with an input of 2. _____

2 ▸ Find the input associated with an output of 2. _____

To read the notation $f(x)$, say _____.

The notation $f(x)$ can be used _____ with y on the

left side of an equation.

In the function $f(x) = -2x - 2$, _____ is the input and

_____ is the output.
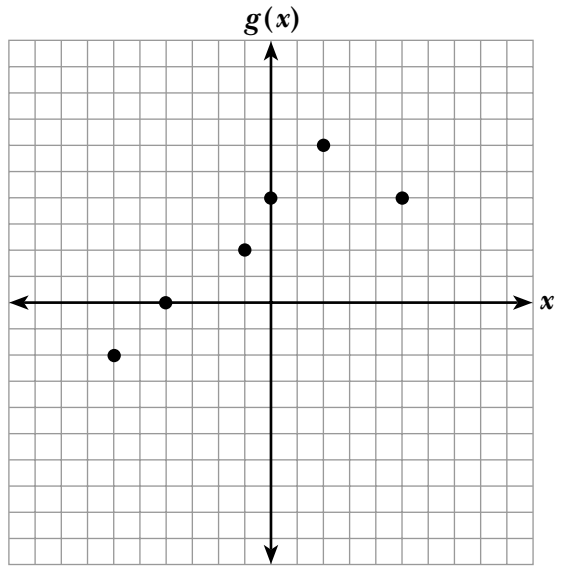
The function $k(x) = -4$ is called a _____ function.

3 ▸ Evaluate $t(9)$ if $t(x) = \sqrt{x} - 2x$.

$t(9) =$ _____

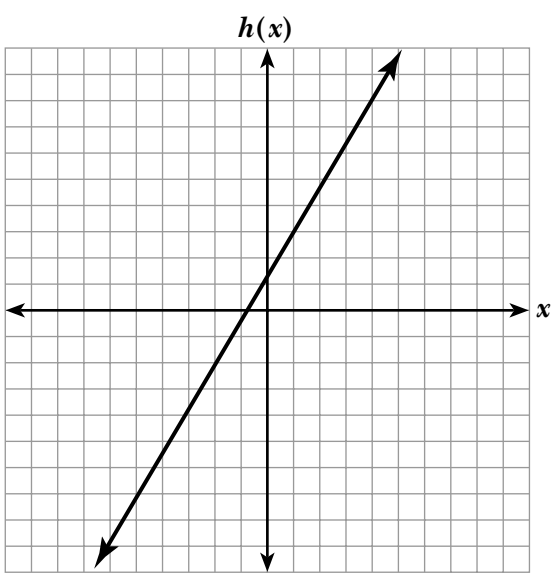**4** ▸ Evaluate $p(-1)$ if $p(x) = |x - 4| + 8$.

$p(-1) =$ _____

5 ▸ Evaluate $g(5)$ if $g(x) = \dfrac{x - 4}{x + 3}$.

$g(5) =$ _____

6 ▸ Use the graph of $g(x)$ to find $g(0)$, $g(2)$,

and $g(-4)$.

$g(x)$

$g(0) =$ _____

$g(2) =$ _____
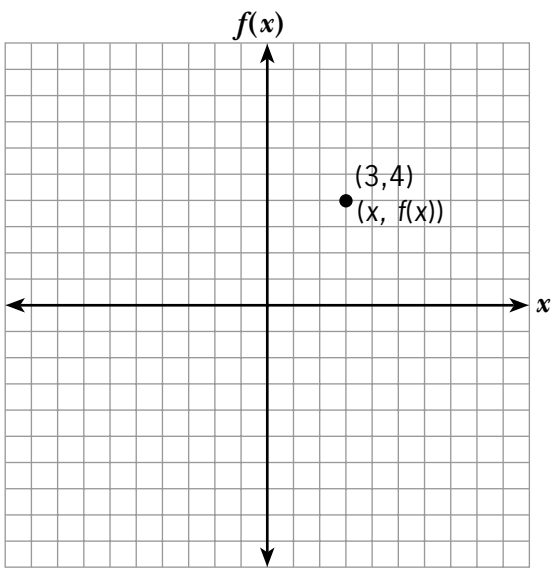
$g(-4) =$ _____

7 ▸ Use the graph of $h(x)$ to find $h(1)$. Then write

the equation of the line using function notation.

$h(1) =$ _____ Equation: _____

$h(x)$

Function Notation

$y = \ldots$
$f(x) = \ldots$

Evaluating Functions

$f(x) = -2x - 2$
$f(3) = -2(3) - 2$
$f(3) = -8$
$(3, -8)$

Determine Function Values Using Graphs

$f(x)$

(3,4)
(x, f(x))