

Unit 10 – Function Notation



1. Given the function **g** defined by  $g(x) = x^2 - 4$ , find the following:

(a) 
$$g(-3)$$
 (b)  $g(0)$ 

2. Using the function rule  $h(x) = 15 - \frac{3}{2}x$ , find the value of x when h(x) = 24.

- 3. If the function f(x) = 2x 3 and  $g(x) = \frac{3}{2}x + 1$  then which of the following is a true statement?
  - (1) f(0) > g(0) (3) f(2) = g(2)
  - (2) f(8) = g(8) (4) g(4) < f(4)
- 4. Given the function **f** defined by  $f(x) = 3x^2 4$ , which statement is true?
  - (1) f(0) = 0 (3) x = 5 when f(x) = 75
  - (2) f(-2) = f(2) (4)  $f(5) \bullet f(2) = f(10)$
- 5. Officials in a town use a function, P to analyze traffic patterns. P(n) represents the rate of traffic through an intersection where n is the number of observed vehicles in a specified time interval. What would be the most appropriate domain for the function?
  - (1) the set of real numbers(2) the set of rational numbers(3) the set of whole numbers(4) the set of integers

- 6. Amy is purchasing t-shirts for her softball team. A local company has agreed to make the shirts for \$9 each with a one-time \$85 charge for graphic designs.
  - (a) Write a function rule in *function notation* that describes the cost, *C*, for the shirts in terms of *q*, the quantity ordered.
  - (b) Find the cost of ordering 20 t-shirts.

(c) If the softball team has \$450, how many t-shirts can they purchase?

7. The function **y** = **r**(**x**) represents the radius of a circle for a given area, **x**. A graph of the function is shown in this figure. Using the graph, complete a and b.



- (a) Find *r*(7). Explain the meaning of this value in the context of the situation.
- (b) Find the value of x to the nearest integer if r(x) = 1.25.

## **PIPS Question:**

Given the function f defined by  $f(x) = \frac{1}{2}x - 5$ , the function h is defined by h(x) = 4f(x). (a) Find h(6)

(b) If function g is defined as g(x) = h(x) - 7, write the function rule that describes y = g(x).