1.4 Functions

Name: Date: June 18, 2013

P 41. Evaluate the function at each specified value of the independent variable and simplify.

$$g(t) = 4t^2 - 3t + 5$$

(a) $g(2)$ (b) $g(t-2)$ (c) $g(t) - g(2)$

P 44. Evaluate the function at each specified value of the independent variable and simplify.

$$f(x) = \sqrt{x+8} + 2$$

(a) $f(-8)$ (b) $f(1)$ (c) $f(x-8)$

P 46. Evaluate the function at each specified value of the independent variable and simplify.

$$q(t) = \frac{2t^2 + 3}{t^2}$$

(a) $q(2)$ (b) $q(0)$ (c) $q(-x)$

P 47. Evaluate the function at each specified value of the independent variable and simplify.

$$f(x) = |x|/x$$

(a) $f(2)$ (b) $f(-2)$ (c) $f(x-1)$

P 52. Evaluate the function at each specified value of the independent variable and simplify.

$$f(x) = \begin{cases} 4 - 5x, & x \leq -2 \\ 0, & -2 < x < 2 \\ x^2 + 1, & x \geq 2 \end{cases}$$

(a) $f(-3)$ (b) $f(4)$ (c) $f(-1)$

P 70. Find the value(s) of x for which $f(x) = g(x)$.

$$f(x) = \sqrt{x} - 4, \quad g(x) = 2 - x$$

In Exercises, find the domain of the function

P 71.

$$f(x) = 5x^2 + 2x - 1$$

P 74.

$$s(y) = \frac{3y}{y+5}$$

P 77.

$$g(x) = \frac{1}{x} - \frac{3}{x+2}$$

P 80.

$$f(x) = \sqrt{x+6}6 + x$$

P 81.

$$f(x) = \frac{x-4}{\sqrt{x}}$$

P 82.

$$f(x) = \frac{x+2}{\sqrt{x-10}}$$

P 103. Find the difference quotient and simplify.

$$f(x) = x^2 - x + 1.$$

P 107. Find the difference quotient and simplify.

$$g(x) = \frac{1}{x^2}$$

P 109. Find the difference quotient and simplify.

$$f(x) = \sqrt{5x}$$