

Math 2143 - Brief Calculus with Applications

Homework #1 - 2006.01.20

Due Date - 2006.01.25

Solutions

1.

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

Domain = $\{x \mid x \text{ is a real number not equal to } 1 \text{ or } -1\}$

2.

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

Domain = \mathbb{R}

3.

$$s(v) = \sqrt{v^2 - 1}$$

Domain = $\{v \mid v \leq -1 \text{ or } v \geq 1\}$

4.

$$t(y) = \frac{1}{\sqrt{y^2 - 1}}$$

Domain = $\{y \mid y < -1 \text{ or } y > 1\}$

5.

$$r(x) = \frac{2x}{x^2 - 1} + \frac{\sqrt{x}}{x^2 + 1}$$

Domain = $\{x \mid x \text{ is a positive real number not equal to } 1\}$