FUNCTION OPERATIONS: GUIDED NOTES

Simplify: $\dfrac{g(x)}{f(x)} = \dfrac{2x^2 + x - 3}{2x + 3} =$

Where to Find Domain Restrictions: Look for…

    (1) …variable(s) in the denominator.

    (2) …even root(s).

Notation

$$(f + g)(x) = f(x) + g(x) \qquad\qquad (f \cdot g)(x) = f(x) \cdot g(x)$$

$$(f - g)(x) = f(x) - g(x) \qquad\qquad \left(\dfrac{f}{g}\right)(x) = \dfrac{f(x)}{g(x)}$$

Example Problems

Let $f(x) = \sqrt{x}$ and $g(x) = x^2 + 4$. Perform each of the following operations. Indicate any restrictions in the domain.

1) $(f - g)(x) =$

2) $f(x) \cdot f(x) =$

3) $\left(\dfrac{g}{f}\right)(x) =$