Rational Function: Domain

Domain of a Rational Function

The domain of a rational function is the same as the domain of the rational expression used to define the function.

When working with rational functions, one must first be sure the value given to use in the function is part of the domain. Think carefully about the domains of each of the following rational expressions.

Find the indicated value for each given rational expression if the value given is part of the domain.

$$N(x) = \frac{x+3}{x^3 - 2x^2 - 2x - 3} \quad \text{Find } N(3)$$

If the denominator cannot be easily factored, try the value and see if it makes the denominator 0.

TRY:

$$T(x) = \frac{5-x}{x-5} \quad \text{Find } T(-9)$$

$$G(a) = \frac{3-5a}{2a+7} \quad \text{Find } G(5)$$