Intermediate Algebra Skill
Finding the Inverse of a Rational Function

Find the inverse of the given function:

1) $f(x) = \dfrac{x+1}{x-1}$

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

3) $f(x) = \dfrac{x}{x-1}$

4) $g(x) = \dfrac{x-2}{x+3}$

5) $g(x) = \dfrac{x+1}{x}$

6) $g(x) = \dfrac{2x+1}{x}$

7) $h(x) = \dfrac{x-3}{x-2}$

8) $h(x) = \dfrac{2x-1}{x+1}$

9) $h(x) = \dfrac{x-2}{2x-1}$

10) $f(x) = \dfrac{x}{2x-1}$

Answers to Finding the Inverse of a Rational Function

1) $f^{-1}(x) = \dfrac{x+1}{x-1}$

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

3) $f^{-1}(x) = \dfrac{-x}{1-x}$

4) $g^{-1}(x) = \dfrac{3x+2}{1-x}$

5) $g^{-1}(x) = \dfrac{1}{x-1}$

6) $g^{-1}(x) = \dfrac{1}{x-2}$

7) $h^{-1}(x) = \dfrac{-3+2x}{x-1}$

8) $h^{-1}(x) = \dfrac{-1-x}{x-2}$

9) $h^{-1}(x) = \dfrac{x-2}{2x-1}$

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