## **Inverse of Rational Functions**

Name: \_\_\_\_\_ Date: \_\_\_\_ Score: \_\_\_\_

Direction: Find the inverse of each rational function. State the domain and range. Show all your work in the space provided.

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

2) 
$$f(x) = \frac{-3x-1}{x+5}, x \neq -5$$

3) 
$$f(x) = \frac{x+7}{x}, x \neq 0$$

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

$$f^{-1}(x) = \frac{x-1}{x-2}$$
; Domain:  $x \neq 2$ , Range:  $y \neq 1$ 

2) 
$$f(x) = \frac{-3x-1}{x+5}, x \neq -5$$

$$f^{-1}(x) = \frac{-5x-1}{x+3}$$
; Domain:  $x \neq -3$ , Range:  $y \neq -5$ 

3) 
$$f(x) = \frac{x+7}{x}, x \neq 0$$

$$f^{-1}(x) = \frac{7}{x-1}$$
; Domain:  $x \neq 1$ , Range:  $y \neq 0$