

## U4 Day 2 HW - Finding the Inverse Algebraically

In these problems, determine whether  $f(x)$  is one-to-one. If it is not, restrict the domain so that  $f^{-1}(x)$  is one-to-one. **Give the restricted domain and the range. Then find  $f^{-1}(x)$  and write its domain and range.**

1.  $f(x) = -4x - 3$

D:

R:

$$f(x) = -4x - 3$$

$$f^{-1}(x) =$$

D:

R:

2.  $f(x) = \frac{5}{x-2}$

D:

R:

$$f(x) = \frac{5}{x-2}$$

$$f^{-1}(x) =$$

D:

R:

Ex.  $f(x) = \sqrt{x-1} + 3$

D:

R:

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

$$f^{-1}(x) =$$

D:

R:

Ex.  $f(x) = -3\sqrt[3]{x+2}$

D:

R:

$$f(x) = -3\sqrt[3]{x+2}$$

$$f^{-1}(x) =$$

D:

R:

Ex.  $f(x) = -2(x-3)^2 - 4$

D:

R:

$$f(x) = -2(x-3)^2 - 4$$

$$f^{-1}(x) =$$

D:

R:

**Ex.**  $f(x) = (x + 6)^3 + 7$

**D:**

**R:**

$f(x) = (x + 6)^3 + 7$

$f^{-1}(x) =$

**D:**

**R:**

**Ex.**  $f(x) = \frac{x}{x+3}$

**D:**

**R:**

$f(x) = \frac{x}{x+3}$

$f^{-1}(x) =$

**D:**

**R:**

**Demana ?**

**HW: p. 129 #39-61 odds, 65-72 all**