MATH 125 College Algebra OpenStax Name:_____Section_____

Section 5.7 Inverses and Radical Functions Professor _____

Two functions are inverses of each other if for all x in the domain of f and g, $f\left(g(x)\right) = g(f(x)) = x$

To find an inverse of a one-to-one function:

1.
2.
3.

Restricting domains to make functions one-to-one.

The domain of the _____ is the range of the _____ and the domain of the

_____ is the range of the _____.

Find the inverse and state the domain and range of the original and the inverse then graph both graphs.

$f(x) = 4(x-3)^2 + 1,\ x \geq 3$

$f(x) = 4(x-3)^2 + 1$

$f(x) = 4x^3 - 5$

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

Find the inverse.

$f(x)=\dfrac{9}{x-7}$

$f(x)=\dfrac{2x-5}{3x+4}$

$f(x)=3-\sqrt{6-4x}$

$f(x)=x^2-8x+5$

State the domain.

$f(x)=\sqrt{\dfrac{x^2-3x-4}{x-1}}$

$f(x)=\sqrt{\dfrac{4-x^2}{x}}$