

## Composites and Proving Inverses

A \_\_\_\_\_ function is a function that operates on \_\_\_\_\_.

A \_\_\_\_\_ function is written as nested functions, in the form \_\_\_\_\_.

This is also sometimes written as \_\_\_\_\_.

Use  $f(x) = 2x + 1$ ,  $g(x) = x^2 - 2$ , &  $h(x) = -3x + 7$  to determine the following.

$f(h(x))$	$g(f(x))$	$h \circ g(x)$

To algebraically determine that a function is the inverse of another function, it is

necessary to show that \_\_\_\_\_ = \_\_\_\_\_ = \_\_\_\_\_

Determine if  $f(x)$  and  $g(x)$  are inverses.

Ex 1:  $f(x) = (x + 1)^2$  &  $g(x) = \sqrt{x} - 1$

Ex 2:  $f(x) = 3x - 2$  &  $g(x) = \frac{x+2}{3}$