

Math 160

Quiz 3

Name: _____

July 8, 2003

Show all work for credit.

Leave all answers as exact answers unless otherwise stated.

1. Let $f(x) = 3x + 1$ and $g(x) = \frac{x + 1}{3}$

(a) Find $f(g(7))$

(b) Find $g(g(6))$

2. Let $f(x) = 4x + 2$ and $g(x) = x + 3$. Find and simplify $f(g(x))$

3. Do each of the following

(a) Decompose $h(x) = \sqrt{x + 7}$ into two simpler functions, f and g , such that $g(f(x)) = h(x)$

(b) Find a simplify $f(g(x))$

(c) Find $h^{-1}(x)$