

Name Section

Quiz 11A

IN COMPLETING THE FOLLOWING PROBLEMS, SHOW ALL WORK UNLESS OTHERWISE NOTED. NO WORK MEANS NO CREDIT.

Use $f(x)$ and $g(x)$ to find each expression symbolically and identify the domain. [2 pts each]

$$f(x) = \sqrt{1-x} \qquad g(x) = x^3$$

$$(fg)(x)$$

$$(fg)(x) \underline{\hspace{10em}} \qquad \text{Domain } \underline{\hspace{10em}}$$

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

$$(f \circ g)(x) \underline{\hspace{10em}} \qquad \text{Domain } \underline{\hspace{10em}}$$

Find functions f and g so that $h(x) = (g \circ f)(x)$. [1 pt]

$$h(x) = 1 + \frac{1}{x^2}$$

Restrict f to some interval such that $f(x)$ has an inverse. [1 pt]

$$f(x) = |x + 3| - 2$$

Find the inverse of $f(x)$ and verify that it is the inverse. [2 pts]

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

Given f and g , evaluate the following. [1/2 pt each]

x	-2	-1	0	1	2	3
f(x)	3	1	2	3	1	3
g(x)	3	2	1	0	-1	-2

$$\left(\frac{f}{g}\right)(1)$$

$$(f + g)(0)$$

$$(fg)(2)$$

$$f(g(-1))$$