

Name: \_\_\_\_\_

Section: \_\_\_\_\_

**MATH 120D**  
**QUIZ 4**  
October 31, 2002

You may use a calculator to complete this quiz. No notes please. Show all work.

---

1. (5 points) Let  $f(x) = x^2 + x$ ,  $g(x) = |x|$ , and

$$h(x) = \begin{cases} -1 & \text{if } x < 0 \\ 1 & \text{if } x \geq 0 \end{cases}.$$

Give the multi-part rule for the function  $y = f(x) + g(x) + h(x)$ .

2. (5 points) Let  $f(x) = \frac{2x}{x-4}$  and  $g(x) = \frac{4x}{x-2}$ . Determine if  $g(x)$  is the inverse of  $f(x)$ .  
(Show your work.)