

Quiz #4

Quiz Section: _____

SHOW YOUR WORK

Let $u(x)$ be the basic step function, $u(x) = \begin{cases} 0 & \text{if } x < 0; \\ 1 & \text{if } 0 \leq x \leq 1; \\ 0 & \text{if } x > 1. \end{cases}$

1. (4 points) Let $f(x) = -1 + 3u\left(\frac{t}{2} + 1\right)$. Compute the multipart rule for $f(x)$ and sketch the graph.

2. (6 points) Let $g(x) = u(2t) + 2u(t)$. Compute the multipart rule for $g(x)$ and sketch the graph. Is $g(x)$ one-to-one?