

Math 762 Homework 4

1. Let $f \in C^1([0, \infty))$. Find constants w_1 and w_2 such that

$$g(x) = \begin{cases} f(x) & \text{if } x \geq 0 \\ w_1 f(-x/4) + w_2 f(-x/2) & \text{if } x < 0 \end{cases}$$

is in $C^1(\mathbf{R})$.