Homework #10 Problems
MATH 4433 Introduction to Analysis

1. Give an example of a nowhere continuous function.

2. Give an example of 2 nowhere continuous functions whose *sum* is continuous on the whole real line. Do the same for *products*.

3. For which values of c is the function

$$h_c(x) = \begin{cases} x^c \sin \frac{1}{x} & x \neq 0 \\ 0 & x = 0 \end{cases}$$

continuous on the whole real line?