MATH 460 **Name:**

Homework 8, Fall 2023

Homework 8 has questions 1 through 3 with a total of 30 points. This work is due **Saturday 28 October** at 11:59 PM.

10 1. Show that the function $x \in \mathbf{R} \mapsto x$ is uniformly continuous on $\mathbf{R}$. *If you are concerned that this problem is "too easy," take a moment check all your logic five times. This problem isn't tricky.*

Solution:

Proof. □

10 2. Show that the function $x \in \mathbf{R} \mapsto x^2$ is not uniformly continuous on $\mathbf{R}$.

Solution:

Proof. □

10 3. Give an example of functions $F, G \in \mathbf{R} \to \mathbf{R}$ such that both F and G are uniformly continuous on $\mathbf{R}$, but FG is not uniformly continuous on $\mathbf{R}$.

Solution: