

**MAT337H1, Introduction to Real Analysis: additional recommended problems
for Mar 10 class**

1. Show that the function $1/x$ is not uniformly continuous on $(0, 1)$.
2. Show that a function uniformly continuous on an open interval (a, b) is bounded on that interval.
3. Let f be a function on an open interval (a, b) which is differentiable and has a bounded derivative. Show that f is uniformly continuous on (a, b) .
4. Find a bounded continuous function on the open interval $(0, 1)$ which is not uniformly continuous on that interval.