Turn in your solution to each problem on a separate sheet of paper, with your name on each one.

1. Show a lower bound on giving a multiplicative estimate on the MST: Give two distributions over graphs of degree at most $d$ and weights in the range $\{1, \ldots, w\}$ such that

   (a) graphs in one distribution have an MST weight that is at least twice the MST weight of the graphs in the in other distribution

   (b) in order to distinguish the two distributions with constant probability of success, one must make at least $\Omega(w)$ queries

If you can get the lower bound to have some nontrivial dependence on $d$ and $\epsilon$, even better!