

Homework 2

*Lecturer: Ronitt Rubinfeld**Due Date: March 2, 2017*

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 $\{1, \dots, w\}$ 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 ϵ , even better!