Quiz 5
Math 252

Name:

Show *all* your work (algebraically or geometrically) for each and simplify. No credit is given without supporting work.

1. [4] Given the graph of a force function with respect to distance below, graph the total work as a function of distance. (*Hint*: how much work has been done at distance 0, 1, 2, ...?)

2. [3] The linear density in a rod 8 m long is $12/\sqrt{x+1}$ kg/m, where x is measured in meters from one end of the rod. Find the average density of the rod.

3. [3] Since I promised a maximization problem, maximize this: $v(r) = \frac{P}{4\eta l}(R^2 - r^2)$ where P, η, l, and R are constants. (find the x and y coordinates).