Stat 479 Fall 2009 Quiz 2 September 10, 2009

1. Losses from a policy covering emergency room visits are distributed as a Pareto distribution with $\alpha = 3$ and $\theta = 1000$.

The insurance company wants to impose a deductible such that the expected cost per emergency room visit under the policy is reduced to 50%. In other words:

 $E[(X-d)_+] = 0.5E[X]$

Determine d.

2. The random variable X is uniformly distributed between 20 and z.

 $TVaR_{.80}(X) = 155.$

Determine k so that the standard deviation principle is also equal to 155.