KFUPM	Term 171	Date: 18/2/2018
Mathematics & Statistics	AS 483	Duration: 20 minutes
	Quiz# 2	
Name:	ID #:	Section:

Q1: The distribution of a loss, X, is a 2-point mixture:

(i) With probability 0.6, X1 is a Pareto distribution with parameters $\alpha = 3$ and $\theta = 900$

(ii) With probability 0.4, X2 is a Pareto distribution with parameters $\alpha = 5$ and $\theta = 1500$

Determine $\Pr(X > 1000)$

Q2: Show that $\rho(L) = \frac{1}{\alpha}\ln[E(e^{\alpha L})]$; where α, t > 0; satisfies the properties of translation invariant and monotonicity. We refer to this risk measure as the *exponential premium principle.*

Q3: Let L be a random variable with discrete loss distribution given by

x	**0**	**100**	**1000**	**10000**	**100000**
P(x)	**0.65**	**0.20**	**0.07**	**0.05**	**0.03**

Calculate the Value-at-Risk of L at the 90% level.