KFUPM	Term 162	Date: 23/4/2017
Mathematics & Statistics	AS 483	Duration: 30 minutes
	Quiz# 4	
Name:	ID #:	Section:

Q1: A compound Poisson claim distribution has $\lambda = 5$ and individual claim amounts distributed as follows:

x	f(x)
5	0.6
k	0.4

where $k > 5$: The expected cost of an aggregate stop-loss insurance subject to a deductible of 5 is 28.03. Calculate k?

Q2: You are given: (i) A hospital liability policy has experienced the following numbers of claims over a 10-year period:

10 2 4 0 6 2 4 5 4 2

(ii) Numbers of claims are independent from year to year.
(iii) You use the method of maximum likelihood to fit a Poisson model.

Determine the estimated coefficient of variation of the estimator of the Poisson parameter.

Q3: Aggregate losses are modeled as follows:

(i) The number of losses has a Poisson distribution with _ = 3:
(ii) The amount of each loss has a Burr (Burr Type XII, Singh-Maddala) distribution with $\alpha = 3$; $\theta = 2$; and $\gamma = 1$:
(iii) The number of losses and the amounts of the losses are mutually independent.

Calculate the variance of aggregate losses.