KFUPM	Term 182	Date: 10/2/2019
Mathematics & Statistics	AS 483	Duration: 40 minutes
	Quiz# 2	
Name:	ID #:	Section:

Q1: The annual number of accidents for an individual driver has a Poisson distribution with mean λ. The Poisson means, λ, of a heterogeneous population of drivers have the a Gamma distribution wit mean 0.1 and variance 0.01. Calculate the probability that driver selected at random from the population will have 2 or more accidents in one year.

Q2: You are given: $p_1^M = \frac{1}{6}$ $p_2^M = \frac{1}{9}$ and $p_3^M = \frac{2}{27}$ Fine p_0^M

Q3: X has an exponential distribution with mean θ and θ has a uniform (0,100). Y has a Uniform distribution (0,α) and α has an exponential distribution with mean 100. Find $\frac{Var(X)}{Var(Y)}$

Q4: For a discrete distribution, you are given

- $p_0 = 0.8$
- $p_k = \frac{p_{k-1}}{4k}$ for k > 1

Calculate the mean and variance of the distribution?

Q5: Claim frequency follows a distribution in the (a,b,0) class. You are given that

(i) The probability of 4 claims is 0.066116

(ii) The probability of 5 claims is 0.068761

(iii) The probability of 6 claims is 0.068761

Calculate the probability of no claims.