

KFUPM
Mathematics & Statistics

Term 171
AS 483

Date: 8/2/2018
Duration: 15 minutes

Quiz# **1**

Name:

ID #:

Section:

Q1: Let X be uniform on the interval $[0, 100]$: Find $e_X(d)$ for $d > 0$?

Q2: The distribution of X has the survival function

$$S_X(x) = 1 - \frac{\theta x^\gamma}{1 + \theta x^\gamma}, \theta, \gamma > 0, \text{ and } 0 \text{ otherwise.}$$

The distribution of Y has pdf

$$S_Y(x) = 1 - \frac{e^{-\frac{x}{\theta}} x^{\gamma-1}}{\theta^\gamma \Gamma(\gamma)}$$

and 0 otherwise.

Compare the tail behavior of these distributions.
