

IE241 Engineering Statistics 1 Homework 3

Due date : April 12

1. Solve the following questions in the textbook.

4.5

4.8

4.24

4.34

4.43

4.71

4.95

4.104

4.145

4.184

4.198

2. The median of a continuous random variable X is defined as the unique real number m such that $P(X \geq m) = P(X < m) = \frac{1}{2}$. Find the median of

A. Uniform random variable X with parameter (θ_1, θ_2) .

B. Exponential random variable Y with mean β .

C. Normal random variable Z with parameter (μ, σ^2) .

3. A random variable X is called log-normal random variable with parameter (μ, σ^2) if $\ln(X)$ follows normal distribution whose mean is μ and variance is σ^2 . Find $E[X]$.