ECE 341 - Homework #9

Weibull Distribution, Central Limit Theorem. Due Wednesday, June 3rd

Please make the subject "ECE 341 HW#8" if submitting homework electronically to Jacob_Glower@yahoo.com (or on blackboard)

Weibull Distribution

Option #1 (preferred)

1) Determine the pdf for the voltage, V5, in homework set #7 using a Weibull approximation.

Option #2 (for people who are working ahead and already completed homework #9)

1) Let a be the time you have to wait until the next customer arrives at a store (in minutes). Assume the mean of a is 1.000 minute).

- Determine the pdf for the time it takes for three customers to arrive (the sum of three exponential distributions)
- Determine a Weibill distribution to approximate this pdf.

Central Limit Theorem

2) Let X be the sum of five 6-sided dice (5d6).

- Determine the probability of rolling 22 or higher with 5d6
- Use a Normal approximation and from this, determine the probability that the sum is 21.5 or higher.

3) Let {a, b, c, d} each be uniformly distributed over the range of (0, 1).

Let X be the sum: a + b + c + d.

- Determine the probability that the sum is more than 3.00
- Use a Normal approximation and from this, determine the probability that the sum is more than 3.00