

6/08/20

Agenda for Math 5710 ♪ Meeting #24 ☺ 7/27/20 (8:00 a.m. – 9:10 a.m.)

1. Hello:

Brigham City: Adam Blakeslee Ryan Johnson Tyson Mortensen

Logan: David Allen Natalie Anderson Kameron Baird Stephen Brezinski
 Zachary Ellis Adam Flanders Brock Francom Xiang Gao
 Ryan Goodman Janette Goodridge Hadley Hamar Phillip Leifer
 Brittney Miller Jonathan Mousley Erika Mueller Shelby Simpson
 Steven Summers Matthew White Zhang Xiaomeng

2. Note the syllabus' activity list for today:

24: M/7/27	1. Deepen our conception of continuous probability functions. 2. Construct the following concepts, comprehend associated communication structures, and employ associated algorithms: expected values and variance of the range of continuous probability functions 3. Take advantage of Quiz 24.
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3. Briefly raise issues and questions prompted by the following homework assignment:

- A. Study notes from Meeting #23.
- B. Comprehend Jim's sample response to Quiz 23.
- C. Comprehend the following Entries 045 & 046A-C from our glossary.
- D*. Please solve the following problem; display the computation and upload the resulting pdf document on the appropriate Canvas assignment link:

For an experiment x is randomly drawn from \mathbb{R} . Given A is the event that $x = 0$
 \wedge
 B is the event that $x \in (-0.0001, 0.0001)$, compute $p(A \mid B)$.

- E. From the Video Page of *Canvas*, view with comprehension the videos named “intro continuous prob distributions,” and “mmContinuous Random Variables Probability Density Functions.”
 - F. Comprehend Jim's sample responses to the homework prompts that are posted on *Canvas*.
4. For comprehension purposes, walk deeply through the Glossary Entries 047A– C:

- A. A. Definition for *expected value* for a continuous random variable X :

Given $X \in \{ \text{continuous random variables of } \Omega \} \wedge (f \in \{ \text{density function for } X \},$
 $(E(X) \text{ is the } \textit{expected value} \text{ of } X \Leftrightarrow E(X) = \int_{-\infty}^{\infty} xf(x)dx \text{ provided that the}$
 definite integral $\int_{-\infty}^{\infty} |x|f(x)dx \}$ exists.

- B. B. Definition for *variance* for a continuous random variable X :

Given $X \in \{ \text{continuous random variables of } \Omega \} \wedge (f \in \{ \text{density function for } X \},$
 $(V(X) = \textit{variance of } X \Leftrightarrow V(X) = E((X - E(X))^2))$

- C. C. Theorem 13:

Given $X \in \{ \text{continuous random variables of } \Omega \} \wedge (f \in \{ \text{density function for } X \},$
 $(E((X - E(X))^2)) = E(X^2) - (E(X))^2)$

5. Take advantage of Quiz 24.

6. Complete the following assignments prior to Meeting #25:

- A. Study our notes from Meeting #24.
- B. Comprehend Jim's sample responses to Quiz 24's prompts.
- C. From the Video Page of *Canvas*, view with comprehension the videos named "mmContinuous Random Variables Mean Variance" and "mmContinuous Random Variables cum distr functions."
- D. Comprehend the 047A-C from our glossary.

7. And from Abraham Lincoln (1809–1865):

The probability that we may fail
in the struggle ought not to
deter us from the support of a
cause we believe to be just.

