7/06/20

Agenda for Math 5710 ♬ Meetings #17 & 18 ☻☺ 7/15 &16/20 (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:

17 & 18: W/7/15	1. Rehearse for Opportunity #3. 2. Review and interrelate our Units 1–2 topics. 3. Take advantage of Opportunity #3.

3. Briefly, raise and address issues and questions stimulated by the following homework assignment:

   A. Study our notes from Meeting #16.

   B. Comprehend Jim's sample response to Quiz 16.

   C. Comprehend Entry #037A–D of our *Glossary*.

   D*. Note that while serving as the TV-color-commentator during a Utah Jazz basketball game, Matt Harping suggested that because a player who had just missed one foul shot would likely make the next because the probability of his making a foul shot is 70%.

   > Assuming that $p(A) = 0.70$ where A is the event that the player shoots a foul shot and makes it, assess the veracity of Matt's declaration. In your assessment, make reference to the independence or dependence of two events (e.g., the event that a player makes the first of two foul shots and the event that the player makes the second of two foul shots).

   Express your assessment in two paragraphs and upload the resulting pdf document on the appropriate Canvas assignment link.

   E. From the Video Page of *Canvas*, view with comprehension "Probability of making two shots in six attempts ... ."

   F*. From the Video Page of *Canvas*, view with comprehension "The Monty Hall Problem Explained ." Then write a paragraph that addresses the following question: How, if at all, does the *Monty Hall problem* relate to *Bayes' theorem* and *Bayesian* statistics?

G. Comprehend Jim's sample responses to the homework prompts that are posted on *Canvas*.

4. Take a clarifying walk through Opportunity #3's prompts (attached).

5. Complete the following assignment prior to Meeting #19:

A. Finish taking advantage of Opportunity #2; post the resulting pdf document using the indicated Canvas Assignment link by 11:59 p.m. on Thursday, July 16.

B. Receive the completed rubrics and a copy of Jim's sample responses to Opportunity #2's prompts from the indicated Canvas Assignment link. Study the two documents.

6. And from *XKCD*:

Attachment: Opportunity #3 document

Math 5710 Opportunity #3 ♬ W/07/15/20 – H/07/16/20

1. Please print your name legibly. ____

2. Examine each of the following propositions, determine whether or not it is true, display your choice by circling either “T” or “F”; for each either prove that your decisions is correct or write at least one paragraph that explains why you decided that the proposition is true or why you decided that the proposition is false:

A. $\varnothing \in [\,0,\ \infty\,)$

T F

B. $(\,V \text{ is the universe} \wedge A \in \{\text{ sets }\} \wedge A^{c} = A\,) \Rightarrow V = \varnothing$

T F

C. $s, t \in \{\text{ sequences }\} \Rightarrow |\,s\,| = |\,t\,|$

T F

D. $(\,\Omega \text{ is a sample space } \wedge A \text{ is an event of } \Omega \wedge p \text{ is a probability distribution on } \Omega\,\})$
$\Rightarrow (\,x \text{ is an outcome of } \Omega \Rightarrow x \text{ is a set}\,)$

T F

E. (Ω is a sample space $\wedge$ A is an event of Ω $\wedge$ p is a probability distribution on Ω }) $\Rightarrow$ A is a set

T F

F. (Ω is a sample space $\wedge$ A is an event of Ω $\wedge$ p is a probability distribution on Ω }) $\Rightarrow$ p is a set

T F

G. (Ω is a sample space $\wedge$ A is an event of Ω $\wedge$ p is a probability distribution on Ω }) $\Rightarrow$ $p(A)$ is a set

T F

H. (Ω is a sample space $\wedge A$ is an event of $\Omega \wedge p$ is a probability distribution on Ω })
$\Rightarrow A$ is the domain of p

T F

I. Results from an interval measurement can tenably interpreted as if they were ratio.

T F

J. Measurement relevance is a sufficient condition for measurement reliability.

T F

K. ($A, B \in$ { non-empty subsets of $\Omega \wedge A$ and B are mutually-exclusive relative to one another) $\Rightarrow$ A and B are independent of one another.

T F

L. ($D \in$ { finite sets } $\wedge$ $t \in$ { permutations of D }) $\Rightarrow t \in$ { finite sets }

T F

M. ($n, r \in \omega \ni r \leq n$) $\Rightarrow \binom{n}{r} \in$ { finite sets }

T F

3. Fawn teaches an ESOL (English for speakers of other languages) to 30 students. Five of the students only write in Portuguese, 10 only write in Korean, and 15 only write in Spanish. She finds a document belonging to one of the students but she doesn't know whom. The document is not related to the class, so she doesn't think she should read it but she readily sees that it is not written in Korean. Address the following question and display your computation: What is the probability that it is written in Portuguese?

4. Three experiments are conducted:

> Experiment 1: One card is randomly drawn from a well-shuffled poker deck consisting of 52 cards – no jokers).
>
> Experiment 2: A ball is randomly drawn from an urn that contains exactly 4 black balls, 3 green balls, 3 yellow balls, and 2 orange balls.
>
> Experiment 3: Experiments 1 and 2 are combined.

What is the probability that Experiment 3 results in the event that an ace is drawn and a black ball is drawn?

Please display the computation that led to your solution.

5. When you completed our homework assignment for Meeting #1, you described an experiment in response to the following prompt:

   E.* Design and describe an experiment that addresses a question about future events. The question should involve a prediction about some population – not about some unique individual member of that population. For example, rather than designing an experiment to help predict whether Jim becomes infected with COVID 19 before August 5, design an experiment to predict whether at least one member of our Math 5710 family will be infected with COVID 19 before August 5. Please post the resulting document (as a PDF file) on the indicated *Assignment* link of *Canvas*.

   Although you've already posted your description on the Canvas Assignment link, please either paste it herein or attach it to this document; and then respond to the following prompt:

   Write a paragraph that explains how your experiences in Math 5710 up to this point in time have influenced how you would approach or modify your Homework #1-related experiment.

6. Smile you finished taking advantage of Opportunity #3.