5/20/20

Agenda for Math 5710 ♬ Meeting #8 ☻☺ 7/01/20 (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:

08: W/7/01	1. Deepen our conceptualization of discrete probability functions 2. Construct the concepts of random sampling and random outcomes. 3. Take advantage of Quiz 08.

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

   A. Study our notes from Meeting #7 ; comprehend Jim's sample responses to the Quiz #7 prompts that are posted on *Canvas*.

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   B. Comprehend the entry from Line #030 from our *Glossary* document.

   C*. Examine each of the following propositions to determine whether or not it is true; indicate your determination in the usual way and then prove that the determination is correct (Please post the resulting PDF using the appropriate Canvas Assignment link):

   i. $p(A^c) = 1 - p(A)$

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   ii. $p(\varnothing) = 0$

   T F

   iii. $A \subseteq B \Rightarrow p(A) \leq p(B)$

   T F

   iv. $p(A \cup B) = p(A) + p(B) - p(A \cap B)$

   T F

   D. Comprehend Jim's sample responses to Prompt 8-C's that are posted on *Canvas*.

4. Discriminate between *descriptive* and *inferential* statistics and comprehend some of the notational differences.

5. Raise and address the following question:

   What are the advantages and disadvantages of drawing random samples rather non-random samples in the world of inferential statistics?

6. Comprehend the following lines from our Glossary:

   032. Random outcome:

   A. Definition for *random outcome*: : The outcomes of Ω are *random* $\Leftrightarrow$
   $(p \in \{ \text{ probability measures on } \Omega \} \wedge (p(\{ x \}) = p(\{ y \}) \forall \ x, y \ \in \Omega))$

   B. Note: Unless specified otherwise for a particular entry in this Glossary, subsequent references to Ω are meant to designate a sample space containing only random outcomes.

7. Note that we plan to spend time during Meetings #9 & 10 in the world of psychometrics; comprehend why we need to take that time.

8. Take advantage of Quiz 08.

9. Complete the following homework assignment prior to Meeting #9:

   A. Study our notes from Meeting #8 ; comprehend Jim's sample responses to the Quiz #9 prompts that are posted on *Canvas*.

   B*. Staggerlee wants to conduct a coin-flipping experiment for the purpose of determining the probabilities of randomly obtaining various events when a fair coin is flipped exactly three times in succession. He plans to use the resulting probability distributions to hedge his bets in a variety of games of chance. Please design the experiment for him so that it yields probability values for the each of the following events: X_j is the event in which exactly j tails turn up for $j \in \{ 0, 1, 2, 3 \}$. Describe the experiment – identifying the sample space and discrete probability distribution.

   C. Compare your responses to the homework prompts to those Jim posted in *Canvas* on the usual page.

10. Think about thinking.