STA3123 Final Exam Review Supplement

Watch this video to start: http://youtu.be/DKxRZFt-xQ0

Homework Problems to Review for the Final:

Chapter 7, problems: 9, 10, 23, and 64*

Chapter 8, problems: 15 - 17, 37, 39, 47 - 49

Chapter 9, problems: 6 - 8, 37

Chapter 10, problems: 17 - 25

Chapter 11, problems: 3*, 4*, 15 - 19, 38, 39, 41*, 45*, 47

Chapter 14, problems: 10 and 13.

*These problems have some calculations, so just look at the answer for the calculation part and focus on answering the interpretation part.

Also, study your old exams. Look over all of the questions from the old exam that did not involve calculations.

Find the connections in the methods we learned.

For example which methods were used with one sample of data?

Z-test, t-test, Sign Test, and One Proportion Z-test

Which methods are used with two samples of data?

Independent t-test, Dependent t-test (Matched Pairs), Two Proportion Z -Test, F-test, Wilcoxon Rank-Sum, and Wilcoxon Signed-Ranks

Which of the above are for independent samples?

Independent t-test, Two Proportion Z -Test, F-test, and Wilcoxon Rank-Sum

What methods did we learn to deal with three or more samples?

ANOVA CRD, ANOVA RBD, Kruskall-Wallis H-test, Friedman Fr-test

What methods deal with proportions?

One Proportion Z-Test, Two Proportion Z –Test, Chi-Square Test (for a one-way table)

Do you see what is similar about the list above for proportions and the one below?

t-test, Independent t-test, and ANOVA CRD

**answer: The first methods are used to estimate or compare proportion(s) and the second are used to estimate or compare mean(s), but they both are in the order: one sample, two samples, three or more samples. Note: the Chi-Square Test is not used for three or more samples, but it does allow us to compare three or more proportions under certain assumptions.

Try this one: The **Independent t-test** is to the **Matched Pairs t-test** as the **ANOVA CRD** is to?

**answer: ANOVA RBD … Matched Pairs is for two dependent samples while the Independent t-test is for two independent samples. ANOVA CRD is for three or more independent samples while ANOVA RBD is for three or more dependent samples.

Try this one: A researcher wants to know if the proportion of BMW owners who are male is higher than the proportion of Mercedes owners who are male. Which procedure have we learned to test this kind of hypothesis?

**answer: the Two Proportion Z-test.

 videos that might be helpful:

Chapter 7 Example 105 (from 5:57 to the end)

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Chapter 8 Type I & Type II error (in the lecture example section)**, Example 127*, Example 130.5**

8.5 problems 1 and 3

8.7 problems 1 – 3

Sample Exam 1: problems 5 - 7

Chapter 9

9.1 concept 2, problems 4 – 6

Sample Exam 2: problems 2, 3, 6, 9, 14, 15, 16, and 19

Chapter 10 Example Videos: 154, 155, 156, 157, and 157.5

10.2 all of the videos

Chapter 11 Example 169 (from 3:21 to the end)**, A Complete Example** (from the lecture example section)

11.1 problems 5

11.6 concept video and problem 4

11.7 concept video, problem 3 (just the interpretation) and problem 4

Sample Exam 3: problems 6 – 8, 11, 14, and 18

Chapter 13 Example 181

Chapter 14

14.4 concept 1

14.5 concept video (just the big picture idea about what the test is used for)

14.6 concept video (just the big picture idea about what the test is used for)

14.7 concept video (just the big picture idea about what the test is used for)

14.8 concept video (just the big picture idea about what the test is used for)

Sample Exam 4: problems 6 and 19

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