

# Problem Set 8 for Math 17

Date Due: April 15, 2011

January 21, 2011

Problems:

Chapter 28 - 4abc, 10b, 14, 18bc

Chapter 7 - 6, 12, 24, 34bd

Chapter 8 - 2, 6, 8, 10, 14, 36abcd, 61

and Additional below:

Additional:

1. a. For 28.12, is the ANOVA balanced or unbalanced? Explain in one sentence.  
b. For 28.19, is the ANOVA balanced or unbalanced? Explain in one sentence. (19 is not assigned, just read the description to answer this.)
  
2. An ANOVA null hypothesis was rejected and multiple comparisons were performed. Suppose there were 5 treatments being considered, with sample means ranked as: 4, 1, 5, 3, 2 from smallest to largest.
  - a. Would it be possible to conclude that treatment 5 had the same mean as treatment 3 and treatment 1, but that treatment 1 and treatment 3 had different means?
  - b. Would it be possible to conclude that treatment 4 had the same mean as treatment 3 but a different mean compared to treatment 5?
  - c. Would it be possible to conclude that all treatments have different means?
  
3. You have a regression line given by  $\hat{y} = 360 - 5.68x$ , and you know the values of  $x$  that were observed ranged from 10 to 30.
  - a. If it is reasonable, make a prediction for  $y$  when  $x = 25$ . If not reasonable, explain why not.
  - b. If it is reasonable, make a prediction for  $y$  when  $x = 52$ . If not reasonable, explain why not.
  - c. If it is reasonable, make a prediction for  $x$  when  $y = 218$ . If not reasonable, explain why not.

Note: This assignment is again 2 assignments merged to provide time for you to tackle the Chapter 28 material after the second midterm. Do NOT wait too long before starting this assignment.