

STAT 221 Introduction to Probability and Statistics Winter 2012

Quiz 24

Taken on Thur Mar 8. You may work with a group of as many as 4 students, submitting one quiz with all names, provided that you all contribute to the work. You may use your notes. Also, please include your section number (8am: section 2, 9am: section 3) and “quiz 24” along with your name(s).

Recall from the previous quiz: Two Cal Poly freshmen gathered data on a random sample of textbooks from El Corral in November of 2006. Two of the variables recorded were the price of the book and the number of pages that it contained. These data are in the Minitab worksheet `TextbookPrices.mtw`, available from our course webpage.

1. Report the value of the test statistic for testing whether there is a positive association between price and number of pages in the population of all textbooks for sale in the bookstore in November of 2006.
2. At the $\alpha = .05$ level, do the data provide convincing evidence that number of pages is a significant predictor of price? Explain how you can tell.
3. Report a 95% prediction interval for the price of a 500-page textbook.
4. Would a 95% confidence interval for the mean price among all 500-page textbooks be narrower, the same width, or wider than the prediction interval in #3? (Do not bother to explain.)
5. Would a 95% prediction interval for the price of a 750-page textbook be narrower, the same width, or wider than the prediction interval in #3? Give a brief explanation.