

**A.P. Statistics**  
**Assignment 11.2**

**Remember to show your thinking through your work.**

- 1) What are the typical null and alternate hypotheses for a significance test on slope?

- 2) How many degrees of freedom will you work with?

- 3) Can a pretest on mathematics skills predict success in a statistics course? The 55 students in an introductory statistics class took a pretest at the beginning of the semester. The least-squares regression line for predicting the score  $y$  on the final exam from the pretest score  $x$  was  $\hat{y} = 10.5 + 0.82x$ . The standard error of  $b$  was 0.38. Test the null hypothesis that there is no linear relationship between the pretest score and the score on the final exam against the two-sided alternative.

- 4) Here are the golf scores (again) of 12 members of a college women's golf team in two rounds of tournament play. (A golf score is the number of strokes required to complete the course, so that low scores are better.) To what extent may we predict the second round score from the first round score?

Player	1	2	3	4	5	6	7	8	9	10	11	12
Round 1	89	90	87	95	86	81	102	105	83	88	91	79
Round 2	94	85	89	89	81	76	107	89	87	91	88	80

Run a significance test that there is no relationship between the first round and second round scores.