Pledge:

3/29/2007 MATH 271 Name:_____
Dr. Lunsford Quiz 4 (20 Points Possible)

Please show all calculator input for full credit.

A surprising number of young adults (ages 19 to 25) still live in their parents' home. A random sample by the National Institutes of Health included 2253 men and 2629 women in this age group. The survey found that 986 of the men and 923 of the women lived with their parents. Let p_m be the true proportion of men in this age group who live with their parents and p_w be the true proportion of women in this age group who live with their parents. Please use the following questions.

(a) Find a 95% confidence interval for $p_m - p_w$. (2 points)

(b) Write a complete English sentence explaining the meaning of the confidence interval you found in part (a). (2 points)

(c) Test the hypotheses: $H_0 : p_m = p_w$, $H_a : p_m > p_w$. Clearly indicate the values of your test statistic and p-value. (2 points)

(d) What is the result, in the context of this problem, of the hypothesis test in part (c)? You should use a form of the word "significant" in your answer. (3 points)

(e) Draw a sketch showing the test statistic and p-value. (3 points)

(f) Complete the following two way table: (6 points)

(g) Find the marginal distribution of the variable "Lives with Parents." (2 points)

	Gender		
Lives with Parents	Male	Female	**Total**
Yes			
No			
Total			