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) 2 Prop Z-Int

$x1 = 986$ $x2 = 923$
$n1 = 2253$ $n2 = 2629$ answer: $(.05912, .11399)$

(b) Write a complete English sentence explaining the meaning of the confidence interval you found in part (a). (2 points) We are 95% confident that the true difference between the percent of men who with their parents and the true percent of women who live with their parents is between 5.9% and 11.4%.

(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) 2 Prop Z-Test: Same input as in part (a).

Test stat = $z = 6.178$
p-value $= 3.25 \times 10^{-10}$

(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)
Reject Ho in favor of Ha, A significantly larger percent of men in this age group live with their parents than women in this age group.

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

area = p-value = 3.25×10^{-10}
z-curve $6.178 \leftarrow$ test stat
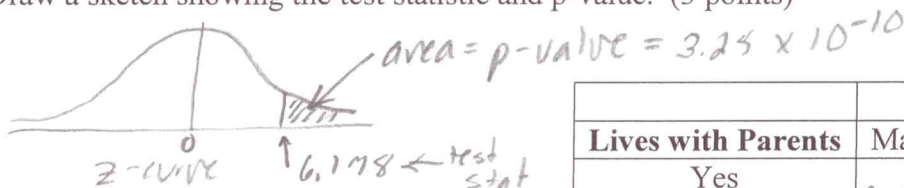
(f) Complete the following two way table: (6 points)

	Gender		
Lives with Parents	Male	Female	Total
Yes	986	923	1909
No	1267	1706	2973
Total	2253	2629	4882

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

% Yes $= \frac{1909}{4882} = 39.10\%$

% No $= \frac{2973}{4882} = 60.90\%$