Quiz # 3 Stat 212-02

NAME: ID #: Serial #:

1. In a study about the relationship between the age group of shoppers and the day of shopping, 200 shoppers of each age group were randomly selected and the results are given in the following Minitab printout:
Expected counts are printed below the observed counts. Chi-Square contributions are printed below the expected counts.

Age groups

Day Preference	< 35	35-54	> 54
Saturday	48	56	24
Expected	42.67	42.67	42.67
Chi-square		4.164	8.168
Other days	152	144	176
Expected	157.33	157.33	157.33
Chi-square	0.181		2.215

From the above Minitab printout, answer the following:

a. Fill in the missing values of Chi-square in table above.
b. Write the null and alternative hypotheses of your test.

c. Perform the test, IN DETAIL, and write your decision. Use 5% level of significance.

d. If needed use Marascuilo procedure to test that which age groups have different opinion for shopping day? Use 5% level of significance.

2. The CEO of a health care facility would like to assess the effects of a recent implementation of Six Sigma management on customer satisfaction. A random sample of 290 patients is selected from a list of patients who were at the facility the past week and also a year ago:

Satisfied last year	Satisfied now		
	Yes	No	Total
Yes	63	79	142
No	60	88	148
Total	123	167	290

At 0.05 level of significance, is there evidence that satisfaction was lower last year, prior to introduction of Six Sigma management?