

Elementary Statistics	Name: _____
Study Guide 32	Class: _____
Due Date: _____	Score: _____

Your solutions must be consistent with class notes & resources.

Be Neat, Organized, and No Work \Leftrightarrow No Points

1. Consider the following table for observed values:

	C_1	C_2	C_3	Total
R_1	1	2	3	
R_2	2	1	1	
Total				

(a) (3 points) Complete the following for expected values. Show your work for the finding the answers for the first column.

	C_1	C_2	C_3
R_1			
R_2			

(b) (3 points) Use the formula to find the computed test statistic.

(b) _____

(c) (3 points) Find the corresponding P-value.
Drawing, Shading, Labeling, and full TI command Required.

(c) _____

2. (3 points) Consider a contingency table with 5 rows, 4 columns, and C.T.S. $\chi^2 = 54.321$. Use your TI Calculator to find the corresponding P-Value.

2. _____

3. In a survey of 200 randomly selected married couples, the results were categorized and are displayed in the table below.

		Wife		
		Short	Average	Tall
Husband	Short	23	37	15
	Average	18	42	15
	Tall	14	26	10

At $\alpha = 0.05$ level of significance, test the claim that row and column categories are independent by using the data in the table above.

- (a) (3 points) Clearly state H_0 and H_1 .

H_0 : _____

H_1 : _____

- (b) (4 points) Find the computed test statistic, and the P-value. Name the TI command used.

C.T.S. : _____

P-Value : _____

- (c) (3 points) Based on this testing, do you conclude that these row and column categories are independent or dependent?

(c) _____

4. The table below shows the number of wins and losses by home team from 1998-99 to 2007-08 in both regular and post season in NBA.

	Wins	Loses
Regular Season	7021	4569
Post Season	539	288

At $\alpha = 0.05$ level of significance, test the claim that row and column categories are independent by using the data in the table above.

- (a) (2 points) Clearly state H_0 and H_1 .

H_0 : _____

H_1 : _____

- (b) (3 points) Find the computed test statistic, and the P-value.
Name the TI command used.

C.T.S. : _____

P-Value : _____

- (c) (3 points) Based on this testing, do you conclude that these row and column categories are independent or dependent?

(c) _____

5. The plant manager at a local company wanted to know if there is a relationship between the number of no shows at work and the day of the week. He collected some data and the results were categorized and are displayed in the table below.

Day	Mon	Tues	Wed	Thurs	Fri
No Shows	12	6	8	10	14

At $\alpha = 0.05$ level of significance, test the claim that row and column categories are independent by using the data in the table above.

- (a) (3 points) Clearly state H_0 and H_1 .

H_0 : _____

H_1 : _____

- (b) (3 points) Find the computed test statistic, and the P-value.
Name the TI command used.

C.T.S. : _____

P-Value : _____

- (c) (3 points) Based on this testing, do you conclude that these row and column categories are independent or dependent?

(c) _____

6. A player throws a die 300 times and records the outcome after each throw and obtains the following results.

Outcome	1	2	3	4	5	6
Frequency	54	56	55	55	50	30

- (a) (2 points) How many of each outcomes would you expect to get?

(a) _____

At $\alpha = 0.05$ level of significance, test the claim that this die is a loaded die by using the data in the table above.

- (b) (3 points) Clearly state H_0 and H_1 .

H_0 : _____

H_1 : _____

- (c) (3 points) Find the computed test statistic, and the P-value.
Name the TI command used.

C.T.S. : _____

P-Value : _____

- (d) (3 points) Based on this testing, do you conclude that this is a loaded die or a fair die?

(d) _____

No one can take away from you what you have learned.