Class Time:

Names:

The Chi-Square Distribution: Chi-Square Test for Independence Lab II

Student Learning Outcome:

The student will evaluate if there is a significant relationship between favorite type of snack and gender.

Collect the Data:

1. Using your class as a sample, complete the following chart.

Favorite type of snack by Gender

	sweets (candy & baked goods)	ice cream	chips & pretzels	fruits & vegetables	Total
male					
female					
Total					

2. Looking at the above chart, does it appear to you that there is dependence between gender and favorite type of snack food? Why or why not?

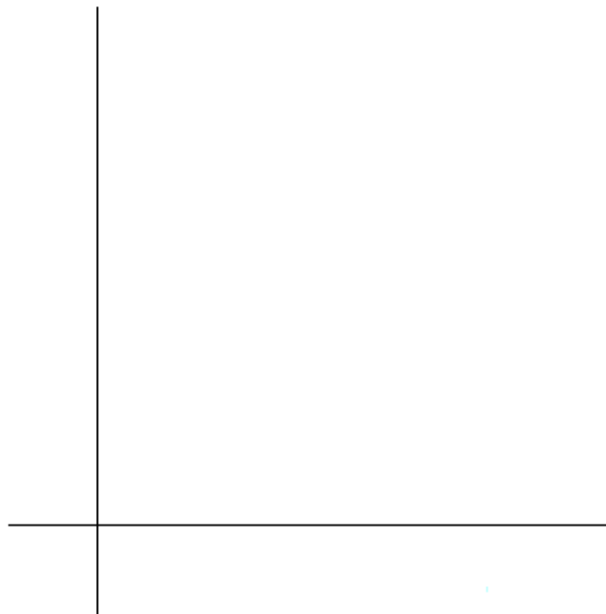**Hypothesis Test**

Conduct a hypothesis test to determine if the factors are independent

1. H_o: _____

2. H_a: _____

3. In words, define the random variable

4. The distribution to use for the test is

5. Calculate the test statistic using your data.

6. Draw a graph and label it appropriately. Shade the actual level of significance. Then calculate the p-value.

7. State your decision

8. State your conclusion in a complete sentence.

Discussion Questions

1. Is the conclusion of your study the same as or different from your answer to "Collect the Data" question 2?

2. Why do you think that occurred?