MAT 222
Spring 2019
Quiz 6

"I think I might be a tapestry of quiet desperation."

— Brock Sampson, Venture Bros.

Problem 1: A researcher wants to investigate the relationship between college student's academic year and their Spring break destinations. They collect data, given partially in the table below.

(a) Complete the data table below.

	Freshman	Senior	Total
Beach	11		28
Home	19	21	40
Other	20	22	
Total	50	60	110

(b) Complete the following table of expected counts.

	Freshman	Senior
Beach	12.73	15.27
Home		21.82
Other	19.09	

(c) Complete the following table of contributions to χ^2.

	Freshman	Senior
Beach		0.11
Home	0.04	
Other	0.04	0.04

(d) Perform a χ^2-analysis of this data using $\alpha = 0.05$. Be sure to state the null and alternative hypotheses (in the problem context), the degrees of freedom, p-value, and your conclusions.