

AP Statistics Inference PBL
 Individual Chi-Square Test Quiz
 20 points possible

Name: _____

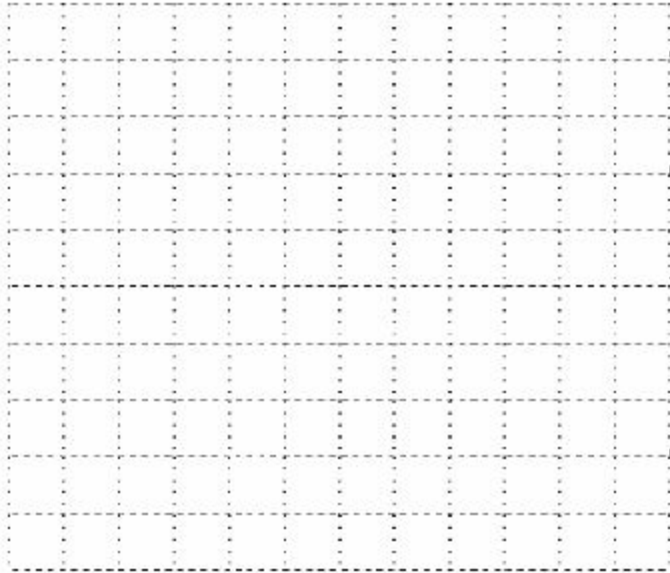
1. A radio station trying to determine what kind of music to play takes a simple random sample of 50 students at each of three locations: a local middle school, a high school, and a college. The students are asked to choose which of three different music genres they most enjoy hearing on the radio. Here are the results:

		Music Genre			Totals
		Hip Hop	Alternative	Post-Rock	
Age	Middle School	28	18	4	50
	High School	22	22	6	50
	College	16	20	14	50
	Totals	66	60	24	150

(a) In the table below, provide the appropriate conditional distribution for comparing the music-listening preferences of the three age levels. (5 points)

		Music Genre			
		Hip Hop	Alternative	Post-Rock	Totals
Age	Middle School				
	High School				
	College				
	Totals				

(b) Make a graph that illustrates these conditional distributions effectively, and use the table from part (a) and your graph to describe the relationship between age level and preferred music genre. (5 points)



(c) Perform the appropriate statistical test to determine if there is a difference in the music preference of these three age groups. (6 points)

(d) If you chose a test for homogeneity in part (c), explain how the data could have been obtained to make a test for independence/association appropriate. If you chose a test for independence/association, explain how the data could have been obtained to make a test

for homogeneity appropriate. (4 points)