AP Statistics

Comparing Counts: Chi-Square   NAME_____

1. Is the distribution of colors of M&M's in my bag the same as the Mars Company claims? Count the data, and let's find out! This will be a Chi-Square Goodness of Fit Test.

	Brown	Yellow	Red	Blue	Orange	Green
M&M Mars Official %'s						
My bag:						
Expected in my bag:						

2. Medical researchers enlisted 108 subjects for an experiment comparing treatments for depression. The subjects were randomly divided into three groups and given pills to take for a period of three months. Unknown to them, one group received a placebo, the second group received the "natural" remedy St. Johnswort, and the third group the prescription drug Paxil. After six months psychologists and physicians (who did not know which treatment each person had received) evaluated the subjects to see if their depression had returned. (This will be a Chi-Square Test for Homogeneity.)

	Treatment			
Diagnosis	Placebo	St J	Paxil	Total
Depression returned	24	22	14	
No sign of depression	6	8	16	
Total				

3. Were class and "survivability" on the Titanic independent? (Chi-Square Test for Indepedence)

Titanic Passengers

		Survived		Row Summary
		No	Yes	
Class	1st	129	193	322
	2nd	161	119	280
	3rd	574	137	711
Column Summary		864	449	1313

S1 = count ( )

4. How do you tell from the data whether a Chi-Square test for homogeneity or a Chi-Square test for independence is appropriate?