Class Activity #11

Name _____

1. For a class project, a student took a survey to determine the college in which each was enrolled and whether or not they had participated in high school sports. The information the student gathered is in the following contingency table.

College enrolled in

Participated in HS sports	Arts & Science	Business	Other	Total
Yes	60	50	40	
No	20	50	30	
Total				

Perform a chi–square test of independence for this contingency table when alpha=.05.

H_0: _____

H_A: _____

Find the expected frequency for each cell.

Participated in HS sports	Arts & Science	Business	Other
Yes			
No			

Calculate the test statistic.

O	E	O-E	$(O-E)^2$	$(O-E)^2/E$

Test Statistic: _____

df = _____

Give the range of p-value _____

Should we reject the null or not? _____

Conclusion:

2. A therapeutic drug was tested against a placebo in terms of three subjectively evaluated patient categories:
(1) much improved, (2) slightly improved, and (3) not improved.

A total of 120 patients were assigned to the drug group and 90 other patients were given the placebo. All were judged to be in approximately the initial same conditions. Physician evaluation was then made without knowing which treatment the patient received. The resulting data were organized in the following 2 X 3 table:

	Much Improved	**Slightly Improved**	**Not Improved**	
Drug	60	32	28	**120**
Placebo	28	17	45	**90**
Total	**88**	**49**	**73**	**210**

At the 5% significance level, test whether there is an association between Drug/Placebo group and patient categories. Be sure to check all the steps.