(8 points; 10 minutes)

5. Use the information in the contingency table to decide whether or not to reject the claim that Factor A and Factor B are independent. Let α = 0.05 for this test.

Level of Factor B	Level of Factor A 1	2	3	Row Total
1	66	68	66	200
2	55	83	62	200
3	43	88	69	200
Column Total	164	239	197	600

Claim: _____

H_0: _____

H_1: _____

(10 points : 10 minutes)

10. A maker of tires for cars believes a new design will wear longer than the current design. Four of the new tires are prepared. Four cars are used in an experiment where one tire of the old design and one of the new design are used on the front wheels of each car. Use the data below to test the manufacturer's claim that the new design will increase the miles of wear by more than 500 miles. (Use a 0.10 significance level for the test.)

Miles of Wear per Tire		
Car	Old Design	New Design
1	58500	59100
2	60100	60700
3	58500	59200
4	63400	63800