STAT-319-Term 162
Quiz #1

Name: **ID**

Q1. (4+4+2=10-Points) A manufacturer of front lights for automobiles tests lamps under a high-humidity, high-temperature environment suing intensity and useful life as the responses of interest. The following table shows the performance of 170 lamps

		Useful life	
		Satisfactory (A)	Unsatisfactory(A`)
Intensity	Satisfactory(B)	143	8
	Unsatisfactory (B`)	12	7

If one lamp is selected randomly, answer the following

a. Find the probability that the selected lamp will yield unsatisfactory results under any criteria.

b. The customers of theses lambs demand 95% satisfactory results. Can the lamb manufacturer meet this demand? Explain.

c. If the selected lamb is found to be satisfactory under useful life, what is the probability that it will be satisfactory under intensity?

Q2. (6+4=10-Points) Customers are used to evaluate preliminary product designs. In the past, 95% of highly successful products received good reviews, 60% of moderately successful products received good reviews, and 10% of poor products received good reviews. In addition, 45% of products have been highly successful, 30% have been moderately successful, and 25% have been poor products.

a. What is the probability that a product attains a good review?

b. If a new design attains a good review, what is the probability that it will be a highly successful product?