STAT 375 Probability Theory

Your Name:

Duration of the Quiz is 25 minutes. There are four problems, worth 20 points. Show all your work for full credit. Books, notes etc. are prohibited.

1. Suppose that the probability of engine malfunction during any one-hour period is p = .02. Find the probability that a given engine will survive two hours.

2. A geological study indicates that an exploratory oil well drilled in a particular region should strike oil with probability .2. Find the probability that the third oil strike comes on the fifth well drilled.

3. Suppose you roll three fair coins, and let X be the cube of the number of heads showing. Compute E(X).

4. Suppose a fair die is tossed three times. Let X be the largest of the three faces that appear. Find the cdf for the random variable X.