LAST NAME (Print): ——————————————— FIRST: ———————————————

Statistics 111   **Quiz 4**

1. Remove all the clubs from a standard deck of cards.

———————— What is the probability of getting three red cards, when drawing with replacement?

———————— What is the probability of getting three red cards, when drawing without replacement?

———————— What is the probability that the sixth card is a diamond, given that the first five cards (without replacement) are spades?

2. Vulcan IQs are normally distributed with mean 200 and variance 100.

———————— Mr. Spock has an IQ of 215. What *percentage* of Vulcans are smarter?

———————— Starfleet Academy only accepts the smartest 10% of Vulcans. What is the lowest qualifying IQ? (Report decimals.)

———————— What *proportion* of Vulcans have IQs between 190 and 205?

3. ———————— For any distribution, at least what proportion of the observations lie within 1.6 standard deviations of the mean?

4. ———————— Assume a person is equally likely to be born on any day of the week. What is the probability that one or more people were born on the same weekday in a group of four?

5. List all (and only) true statements. (Up to 4 points) ———————————

   A. A. N. Kolmogorov was a bastard.

   B. A finite partition is any set of events $A_1, \ldots, A_n$ such that $\sum i = 1^n A_i = 1$.

   C. Bayesians treat probabilities subjectively.

   D. During the Great Depression, Keynes urged governments to combat unemployment through belt-tightening.