SDS 321 Worksheet 2 Review

1. Let's define events:

   R= draw a red card from a standard pack of 52 cards, and
   K=draw a King
   Write the probability statement and find the probability of each of the following:
   a) Suppose I draw one card at random, what is the probability that I drew a red card?
   b) Suppose I draw one card at random and I am told that it is a red card, what is the probability that I drew a King?
   c) Suppose I draw one card at random and I am told that it is a King, what is the probability that I drew a red card?

2. For two events A and B, what is the formula for $P(A \cup B)$?
3. How does the formula in #2 change if A and B are disjoint (mutually exclusive)?
4. For two events A and B, what is the formula for $P(A \cap B)$?
5. How does the formula in #4 change is A and B are independent?
6. How can I tell if two events A and B are mutually exclusive?
7. How can I tell if two events A and B are independent?