Quiz 15

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This quiz does not count towards your grade. It exists to simply gauge your understanding. Treat this as though it were a portion of your midterm or final exam. "Intuition Practice" might be tricky; watch out for subtleties. "Proofs" will be challenging to start; develop an arsenal of *approaches* to starting a problem.

1 Intuition Practice

For each of the following questions, choose **True** or **False**.

1. (True or False) A random variable is a function mapping events to the real numbers.

2. (True or False) A random experiment is uniquely defined by a set of probabilities.

3. (True or False) Consider non-disjoint events $X, Y \in \Omega$. Then, $\sum_x P(X|Y) = 1$

4. (True or False) Consider non-disjoint events $X, Y \in \Omega$. Then, $\sum_y P(X|Y) \leq \sum_x P(X|Y)$.

5. (True or False) It is possible to construct events X and Y such that $P(X|Y) = Pr(X,Y)$.