Lecture 11

Conditional Probability and Venn Diagrams

I've shown you how to setup a tree diagram for branching probability problems, but we haven't reviewed the other type of diagram used: **Venn Diagrams**.

This will be best shown via example.

Example

Consider a survey asking people their opinion of fast food establishments. In the survey, 56% of people say they would eat at McDonald's, 72% of people say they would eat at Wendy's, and of the people who say they eat at Wendy's, 65% say they would also eat at McDonald's.

Question 1: what is the probability a randomly selected person would eat at **both** Wendy's and McDonald's?

Example

Example

Question 2: what is the conditional probability that if a randomly selected person would eat at McDonald's that they would also eat at Wendy's?

Example

Question 3: given that we know that the person selected would eat at Wendy's, what is the probability they would **not** eat at McDonald's?

And now …

WeBWorK Practice 3 - let's solve some problems!