Percentage (Section 1.3) **vs. Probability** (Section 5.2)

Percentages and probabilities can be thought of as the same answer to a question that is asked in two different ways.

"What percent of the class has brown eyes?" has the same answer as

"What is the probability that a randomly chosen student in the class will have brown eyes?"

Both questions are answered by finding the number of people who have brown eyes and dividing by the number of people in the total group. Easy!

Example: Suppose we want to investigate how a student's major is related to their transfer plans.
Set up a "Contingency Table (aka a "Two-Way Table"): Major vs. Transfer University

	Cal Poly	Other University	Total
Business Major			
Non-Business Major			
Total			

What percent of the class plan to transfer to Poly?

> What is the probability that a randomly
> chosen student in the class plans to transfer to Poly?

What percent of the business majors plan to transfer to Poly?

> What is the probability that student plans to transfer to Poly,
> given that she/he is a business major?

What percentage of the non-business majors plan to transfer to Poly?

> What is the probability that student plans to transfer to Poly,
> given that she/he is a non-business major?

Does there seem to be an <u>association</u> between major and transfer plans? Explain.

Connecting this back to "OR" statements (review of Addition Rule)

What percent of students are going to Poly?

What percent of students are Business Majors?

What is the probability a randomly chosen person either plans to go to Poly OR is a Business Major?