**Chapter 6 – D: Statistical Inference**

**Statistically Significance**

A set of measurements of observations in a statistical study is said to be **statistically significant** if it is unlikely to have occurred by chance.

**Margin of Error and Confidence Interval**

Suppose you draw a single sample of size n from a large population and measure its sample proportion. The **margin of error** for 95% confidence is

$$margin of error ≈ \frac{1}{\sqrt{n}}$$

The **95% confidence interval** is found by subtracting and adding the margin of error from the sample proportion. You can be 95% confident that the true population proportion lies within this interval. The margin of error dcreases as the sample size increases.

 Example 1

Find the margin of error and 95% confidence interval for the following surveys.

1. A survey of 500 students finds that 75% are passing all of their classes.
2. A survey of 1500 people finds that 87% support stricter penalties for child abuse.

Example 2

Suppose the Bureau of Labor Statistic finds 3420 unemployed people in a sample of n = 60,000 people. Estimate the population unemployment rate and give a 95% confidence interval.

Homework: Does It Make Sense? 9, 11

Basic Skills & Concepts # 15, 17, 19, 25, 27, 29, 31