Two main questions associated with poll results are:

The

Example #1

A poll (sample) of 400 likely voters yields the following:

CANDIDATE A 54% **CANDIDATE B 46%** (these are point estimates)

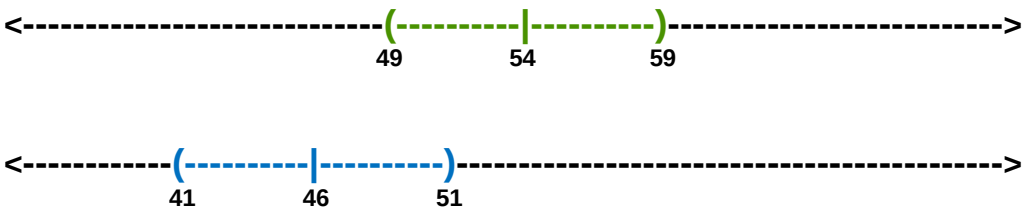
The poll has a margin of error (MOE) of 5%

The true percentage for **CANDIDATE A** is between 49% and 59%

The true percentage for **CANDIDATE B** is between 41% and 51%

Graphically we have:

CANDIDATE A vs. CANDIDATE B



Since the confidence intervals overlap, we cannot claim there is a statistically significant difference (at a 95% confidence level) in the true

Example #2

A poll (sample) of 1,000 likely voters yields the following:

CANDIDATE A 54% **CANDIDATE B 46%** (these are point estimates)

The poll has a margin of error (MOE) of 3%

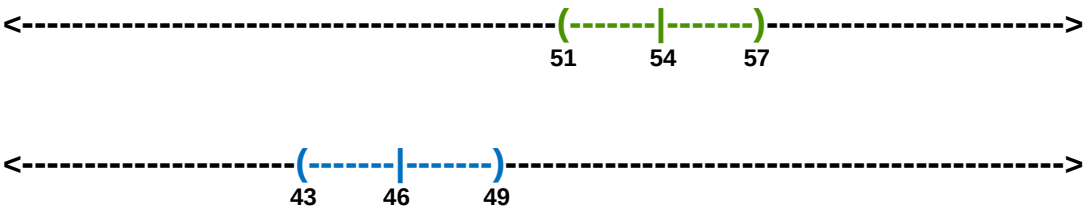
This

The true percentage for **CANDIDATE A** is between 51% and 57%

The true percentage for **CANDIDATE B** is between 43% and 49%

Graphically we have:

CANDIDATE A vs. CANDIDATE B



Since the confidence intervals do not overlap, we can claim there is a statistically significant difference (at a 95% confidence level) between the true percentage of voters supporting **CANDIDATE A** and the true percentage of voters supporting **CANDIDATE B.**

In other words, we conclude that there is statistical evidence, at the 95% confidence level, that likely voters support **CANDIDATE A** over **CANDIDATE B.**

Example #3

A poll (sample) of 1,00

MORE ON CONFIDENCE INTERVALS AND SAMPLING ERRORS

Recall that confidence intervals are based on samples gathered from a larger population and when sampling from a population there is an error associated with the process of sampling. This error is based on the size of the sample. If we were to conduct a census (sampling all elements of a population) the sampling