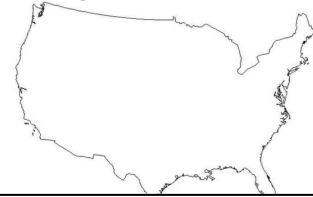


Name: \_\_\_\_\_ Hour: \_\_\_\_\_ Date: \_\_\_\_\_

## Lesson 8.3: Day 2: How many states can you name?



How many states can you name in one minute? We will use this class as a random sample of all AP Stats students to estimate a 95% confidence interval for the mean number of states an AP Stats student can name in one minute.

1. When the timer starts, list as many states as you can on a piece of paper. Write the number of states you listed on the board.

2. What type of data is this? Categorical or quantitative?

2. Enter the class data at [stapplet.com](http://stapplet.com). Find the sample mean and standard deviation. Sketch the dotplot of the sample data.

$n =$              $\bar{x} =$              $s_x =$

3. Construct a 95% confidence interval to estimate the mean # of states a senior can name.

**STATE: State the parameter you want to estimate and the confidence level.**

Parameter: \_\_\_\_\_ Confidence level: \_\_\_\_\_

**PLAN: Identify the appropriate inference method and check conditions.**

Name of procedure:

Check conditions:

**DO: If the conditions are met, perform the calculations.**

General Formula for any confidence interval:

Specific Formula for this confidence interval:

Plug numbers into the formula:

Answer:

**CONCLUDE: Interpret your interval in the context of the problem.**

Interpret:

Name: \_\_\_\_\_ Hour: \_\_\_\_\_ Date: \_\_\_\_\_

## Lesson 8.3 Day 2 – The Four Step Process

Important ideas:

### Check Your Understanding

1. Administrators at your school want to estimate how much time students spend on homework, on average, during a typical week. They want to estimate  $\mu$  at the 90% confidence level with a margin of error of at most 30 minutes. A pilot study indicated that the standard deviation of time spent on homework per week is about 154 minutes. How many students need to be surveyed to meet the administrators' goal?
2. Biologists studying the healing of skin wounds measured the rate at which new cells closed a cut made in the skin of an anesthetized newt. Here are data from a random sample of 18 newts, measured in micrometers (millionths of a meter) per hour:

29 27 34 40 22 28 14 35 26 35 12 30 23 18 11 22 23 33

Calculate and interpret a 95% confidence interval for the mean healing rate  $\mu$ .