

**Estimating Mean Sample Surveys - Guided Lesson Explanation****Explanation#1**

Necessary Sample Size =  $(Z\text{-score})^2 * \text{StdDev} * (1\text{-StdDev}) / (\text{margin of error})^2$

**Variables:**

99% Z-Score = 2.326, Standard Deviation = 0.5, Margin of Error = +/- 5% (or 0.05)

**Plug in variables:**

$(2.326)^2 * 0.5 * (0.5) / (0.05)^2 = 1.352569 / 0.0025 = 541.0276$   
or 542 (always round up; because you can't have partial people)

**Explanation#2**

Telephone

Telephone - Cheapest method and would result in the most responses.

Mail - Would result in few responses.

Personal Interviews - Extremely expensive.

**Explanation#3**

The stadium has chosen to search a fixed interval of entries. A fixed periodic interval of sampling is referred to as systematic.

