

ALGEBRA II
Chapter 11 section 4
Select and Draw Conclusions from Samples
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WARM – UP:

1. Solve $E = \frac{1}{\sqrt{305}}$ _____

2. Solve $0.025 = \frac{1}{\sqrt{n}}$ _____

3. The mean score of an exam was 78. You scored within 5 points of the mean. If $x = 78 \pm 5$ represents your possible score x on the exam, what is the range of your score? _____

VOCAB:

Population: a group of people or objects that you want information about

Sample: a subset of population

Unbiased Sample: a sample that is representative of the population you want information about

Biased Sample: a question that elicits responses that do not accurately reflect the opinions or actions of the people surveyed

Margin of Error: gives a limit on how much the response of a sample would be expected to differ from the response of the population

METHODS FOR SELECTING A SAMPLE: (pg. 766)

Self - selected sample: when members of a population volunteer to be in the sample

Systematic sample: a rule is used to select members of a population such as selecting every third person

Convenience sample: easy-to-reach members of a population are selected, such as those in the first row.

Random sample: each member of a population has an equal chance of being selected

NOTES:

A manufacturer wants to sample the parts from a production line for defects. Identify the type of sample described.

The manufacturer has every 5th item on the production line tested for defects. _____

The manufacturer has the first 50 items on the production line tested. _____

A magazine asked its readers to send in their responses to several questions regarding healthy eating. Tell whether the sample of responses is biased or unbiased. Explain.

The owner of a company with 300 employees wants to survey them about their preference for a regular 5 - day, 8 - hour workweek or a 4 - day, 10 - hour work week. Describe a method for selecting a random sample of 50 employees to poll.

In a survey of 1535 people, 48% preferred Brand A over Brand B and Brand C. $M.O.E. = \pm \frac{1}{\sqrt{n}}$

What is the margin of error?

Give an interval that is likely to obtain the exact percent of all people who prefer Brand A.

A state legislator conducts a poll to determine if the voters want to increase their property tax to make highway improvements. How many people were surveyed if the margin of error was $\pm 3\%$?