Algebra 1 – Unit 5: Data Analysis and Probability

Expectations, Essential Questions, Enduring Understandings, Indicators and Vocabulary

Expectations

1.2 model and interpret real-world situations using the language of mathematics and appropriate technology.
3.1 collect, organize, analyze, and present data using technology as needed.
3.2 apply the basic concepts of statistics and probability to predict possible outcomes of real-world situations, using technology as needed.

Essential Question

How can the results of a statistical investigation be used to support an argument?

Enduring Understanding

Statistics and probability are used to make inferences and predictions.

Indicators

1.2.5 apply formulas and/or use matrices (arrays of numbers) to solve real-world problems.
3.1.1 design and/or conduct an investigation that uses statistical methods to analyze data and communicate results.
3.1.1.a design an investigation that may include simple random sampling, representative sampling, and/or probability simulations, describe how data will be collected, and justify the method.
3.1.1.b decide and justify whether a sample is representative or biased.
3.1.1.c decide and justify whether a sampling method is simple random sampling.
3.1.2 use the measures of central tendency and/or variability to make informed conclusions.
3.1.2.a use the measures of central tendency and/or variability to draw informed conclusions.
3.1.2.1 evaluate inferences and predictions that are based on data analysis.
3.1.3 calculate theoretical probability or use simulations or statistical inference from data to estimate the probability of an event.
3.1.3.a calculate the theoretical probability of an event for a chance situation.
3.1.3.b determine the experimental probability of an event using data.
3.2.1 make informed decisions and predictions based upon the results of simulations and data from research.
3.2.3 communicate the use and misuse of statistics.

Vocabulary

matrix (matrices)
element of a matrix
scalar
simple random sample