

Statistics

Exploring One-Variable Data Reporting Standard

ST.1-Use dot plots, stem plots, histograms, and cumulative frequency plots to illustrate and then write descriptions and characteristics of center and spread of distributions.

ST.2-Compute and compare measures of center, spread, and position.

ST.3-Create and describe data with box plots and in writing

ST.4-Explain the effect of changing units on summary data.

Exploring Two-Variable Reporting Standard

ST.5-Describe the scatter plots and explain the association.

ST.6-Compute and analyze measures of linearity and correlation of bivariate data.

ST.7-Compute least square regression lines of bivariate data.

ST.8-Create and interpret residual plots, identify outliers, and influential points.

ST.9-Apply logarithmic and power transformations to non-linear bivariate data to achieve linearity and interpret results.

Collecting Data and Experimental Design Reporting Standard

ST.10-Analyze categorical data.

ST.11-Analyze methods of data collection.

ST.12-Plan and conduct surveys.

ST.13-Plan and conduct experiments.

Probability and Sampling Distribution Reporting Standard

ST.15-Know and apply the addition rule, multiplication rule, conditional probability and independence to compute probabilities.

ST.16-Use both binomial and geometric probability distributions to solve problems involving discrete random variables.

ST.17-Compute the mean (expected value) and standard deviation of random variables and use statistical methods to complete the linear transformations of random variables.

ST.18-Identify properties of normal distributions.

ST.19-Compute standard normal scores (z-score) and use tables of normal distributions to find probabilities.

ST.20-Use the normal distribution as a model for standard comparison of continuous random variables with different units.

ST.21-Describe the implications of the Central Limit theorem in context.

ST.22-Estimate population parameters and margins of error.

Inference for Categorical Data Reporting Standard

ST.23-Conduct and interpret large sample confidence intervals for proportions and difference of proportions.

ST.24-Conduct and interpret a large sample test for a proportion.

ST.25-Conduct and interpret a large sample test for the difference of two proportions.

ST.26-Conduct and interpret a Chi-Squared Goodness of Fit test.

ST.27-Conduct and interpret a Chi-Squared Independence test.

ST.28-Identify and interpret Type I and Type II errors and describe what influences the power of a test.

Inference for Quantitative Data: Means and Slopes Reporting Standard

ST.29-Conduct and interpret confidence intervals for mean and difference between two means (paired and unpaired).

ST.30-Conduct and interpret confidence intervals for the slope of the least squares regression line.

ST.31-Conduct and interpret a test for mean.

ST.32-Conduct and interpret a test for the difference of two means.

ST.33-Conduct and interpret a T-test for the slope of the least squares regression line.

ST.34-Become fluent in further statistical topics and/or demonstrate college math readiness.