

The Correlation of PLATO® instructional curricula to California Academic Content Standards (CACCS)

Mathematics

Grade 8–12

Probability and Statistics—Advanced Placement

April 18, 2005

PLATO Learning Correlation to the California Academic Content Standards

INTRODUCTION

PLATO Learning, Inc. combines PLATO® computer-assisted instruction into a flexible, integrated learning system to enhance instructional effectiveness in education programs. This document identifies PLATO® instructional activities that correlate to the California Academic Content Standards, Mathematics, Grade 8–12, Probability and Statistics—Advanced Placement.

It is recommended that instructors review the correlation in order to fine-tune the activity to fit their educational environment. Modules may be added or removed; web sites and offline activities may also be incorporated to enhance the learning path.

The following PLATO® courseware was used in this alignment:

- PLATO® Algebra 1, Part 1 and 2
- PLATO® Algebra 2, Part 1 and 2
- PLATO® Geometry and Measurement 1 and 2
- PLATO® Trigonometry
- PLATO® Calculus 1 and 2
- PLATO® Quality Fundamentals

PLATO Learning, Inc. looks forward to supporting your initiatives in providing successful educational programs using PLATO® computer-based lessons.

1.0 Students solve probability problems with finite sample spaces by using the rules for addition, multiplication, and complementation for probability distributions and understand the simplifications that arise with independent events.

PLATO Algebra 1, Part 1

- Special Topics
- Probability and Possible Outcomes
- Probability of an Event
- Solving Problems with Probability

PLATO Algebra 2, Part 1

- Probability
- Chance Experiments and Probability
- Determining the Probability of an Event
- Multiplication Principle of Counting
- Review: Probability

3.0 Students demonstrate an understanding of the notion of discrete random variables by using this concept to solve for the probabilities of outcomes, such as the probability of the occurrence of five or fewer heads in 14 coin tosses.

PLATO Algebra 1, Part 1

- Special Topics
- Probability of an Event
- Solving Problems with Probability

PLATO Algebra 2, Part 1

- Probability
- Chance Experiments and Probability

- Determining the Probability of an Event
- Review: Probability

PLATO Quality Fundamentals

- Data Collection
- Setting the Stage for Data Collection

4.0 Students understand the notion of a continuous random variable and can interpret the probability of an outcome as the area of a region under the graph of the probability density function associated with the random variable.

PLATO Quality Fundamentals

- Data Collection
- Setting the Stage for Data Collection

5.0 Students know the definition of the mean of a discrete random variable and can determine the mean for a particular discrete random variable.

PLATO Algebra 1, Part 1

- Special Topics
- Mean, Median, and Mode
- Solving Problems with Mean, Median, and Mode

PLATO Quality Fundamentals

- Charting and Graphing
- Basic Statistics

6.0 Students know the definition of the variance of a discrete random variable and can determine the variance for a particular discrete random variable.

PLATO Quality Fundamentals

- Charting and Graphing
- Interpreting Histograms
- Basic Statistics

7.0 Students demonstrate understanding of the standard distributions (normal, binomial, and exponential) and can use the distributions to solve for events in problems in which the distribution belongs to those families.

PLATO Quality Fundamentals

- Charting and Graphing
- Basic Statistics

8.0 Students determine the mean and the standard deviation of a normally distributed random variable.

PLATO Quality Fundamentals

- Charting and Graphing
- Basic Statistics

9.0 Students know the central limit theorem and can use it to obtain approximations for probabilities in problems of finite sample spaces in which the probabilities are distributed binomially.

PLATO Quality Fundamentals

- Charting and Graphing
- Basic Statistics

10.0 Students know the definitions of the mean, median, and mode of distribution of data and can compute each of them in particular situations.

PLATO Algebra 1, Part 1

- Special Topics
- Mean, Median, and Mode
- Solving Problems with Mean, Median, and Mode

PLATO Quality Fundamentals

- Charting and Graphing
- Basic Statistics

11.0 Students compute the variance and the standard deviation of a distribution of data.

PLATO Quality Fundamentals

- Charting and Graphing
- Interpreting Histograms
- Basic Statistics

15.0 Students are familiar with the notions of a statistic of a distribution of values, of the sampling distribution of a statistic, and of the variability of a statistic.

PLATO Quality Fundamentals

- Data Collection
- Setting the Stage for Data Collection

- Charting and Graphing
- Interpreting Histograms
- Basic Statistics

16.0 Students know basic facts concerning the relation between the mean and the standard deviation of a sampling distribution and the mean and the standard deviation of the population distribution.

PLATO Quality Fundamentals

- Charting and Graphing
- Basic Statistics