

PLATO Course TABE Mathematics Level D

Course Overview

The PLATO Course TABE Mathematics Level D is outlined according to the Test for Adult Basic Education (TABE). The TABE is an analytical and reliable test, created to assess the proficiency levels and aptitude of adult learners. The PLATO Course TABE Mathematics Level D consists of four units. Each unit will build your knowledge in areas such as algebra, geometry, number concepts, decimals and percents, data analysis, and statistics, and probability. There are sections in each lesson that explain concepts in an easy-to-understand manner, and help you practice what you have learned, through activities and tests.

Course Goals

By the end of this course, you will be able to do the following:

- Understand ratios and learn to estimate by rounding and clustering.
- Solve real-life problems using addition and subtraction, multiplication and division, fractions, decimals, ratios, proportions, and percent.
- Learn about percents and convert percents into decimals and vice versa.
- Calculate the fractional percent of a whole number and convert mixed numbers to percents.
- Understand the difference between scaled drawings and representational diagrams and identify an appropriate ratio for a scale drawing.
- Use ratios to find the actual size of an object.
- Define points, lines, planes, rays, line segments, and angles.
- Describe the parts of triangles, quadrilaterals, and circles.
- Describe the attributes of a data set.
- Solve problems using equations, including problems with rational numbers and real-world problems.
- Solve problems based on probability, statistics, mean, median, and mode.
- Write exponential products in their simplest forms and estimate square roots of perfect and imperfect squares.
- Add, subtract, multiply, and divide fractions and mixed numbers.
- Follow the order of operations to evaluate expressions having more than one variable using order of operations.
- Understand variables and find the values of a variable or a pair of variables that will make an equation a true statement.

- Add, subtract, multiply, and divide monomials and binomials.
- Solve complex linear equations and inequalities, as well as practical problems with two variables.
- Solve special quadratic equations in which both sides are perfect squares.
- Use linear math sentences and quadratic equations in one variable to solve practical problems.
- Find the coordinates of a given point on a coordinate plane and identify points on a coordinate plane.

General Skills

To participate in this course, you should be able to do the following:

- Complete basic operations with word processing software, such as Microsoft Word or Google Docs.
- Understand the basics of spreadsheet software, such as Microsoft Excel or Google Spreadsheets, but having prior computing experience is not necessary.
- Perform online research using various search engines and library databases.
- Communicate through email and participate in discussion boards.

For a complete list of general skills that are required for participation in online courses, refer to the Prerequisites section of the Student Orientation, found at the beginning of this course.

Course Materials

- Notebook
- Graphing calculator, recommend TI-83 or equivalent
- Computer with internet connection and speakers or headphones
- Microsoft Word or equivalent
- Microsoft Excel or equivalent

Unit 1: Number Concepts, Decimals, Fractions, and Percent

Summary

In Unit 1, you will study and understand ratios, and estimate by rounding and clustering. Then, you will solve real-life problems using addition and subtraction, multiplication and division, fractions, decimals, ratios, proportions, and percents. Further, you will learn the meaning of percents less than 1%, convert percents less than 1% to decimals, and convert a decimal to a percent when the value is less than 1%. You will then calculate

the fractional percent of a whole number and convert mixed numbers to percents. You will also convert percents greater than 100 to decimal numbers and decimals greater than 1 to percents. Later, you will study the difference between scaled drawings and representational diagrams and identify an appropriate ratio for a scale drawing. Finally, you will use ratios to find the actual size of an object.

Unit 2: Geometry and Measurement

Summary

Unit 2 will focus on geometry and its measurements. You will learn about points, lines, planes, rays, line segments, and angles. You will also study triangles, quadrilaterals and circles and learn about the parts of each of these shapes.

Unit 3: Data Analysis, Statistics and Probability, and Problem Solving

Summary

In Unit 3, you will learn about data analysis, statistics, and probability. You will describe the attributes of a data set. You will also learn to solve problems using equations, including problems with rational numbers and real-world problems.

Unit 4: Algebraic Concepts

Summary

Unit 4 consists of algebraic concepts. You will write exponential products in their simplest form and study the power rule of exponents. You will estimate square roots of perfect and imperfect squares. Then, you will add, subtract, multiply, and divide fractions and mixed numbers. You will also follow the order of operations to evaluate expressions accurately, and study variables to evaluate an expression with one variable. You will also find values for a variable or a pair of variables that will make an equation a true statement. Further, you will add, subtract, multiply, and divide monomials and binomials.

In this unit, you will solve complex linear equations by isolating the variable. You will also solve linear inequalities using addition and subtraction. Additionally, you will solve special quadratic equations in which both sides are perfect squares. You will also use linear math sentences and practically solve quadratic equations in one variable. Later, you will find the coordinates of a given point and identify points on a coordinate plane. Finally, you will solve practical problems with two variables.