HiSET® Preparation Mathematics, Part 2

Course Overview

The HiSET Preparation courses were developed by aligning Plato courseware with the strands and topics assessed on the 2016 HiSET test. Each unit aligns to one or more objectives in the 2016 HiSET test, and the modules within each unit target the essential concepts of the Common Core State Standards as assessed on the HiSET Mathematics subtest. The focus of HiSET Preparation—Mathematics is statistical, graphical, and algebraic problem-solving skills. The lessons and activities in this course will help you improve your knowledge and skills in these areas.

Course Goals

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

- Add, subtract, and multiply polynomials and monomials, and divide polynomials by binomials.
- Solve quadratic equations, and find the solution set for the equation.
- Create literal equations to solve math problems.
- Solve linear inequalities.
- Solve linear-quadratic systems algebraically and graphically.

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 Plato Student Orientation document, found at the beginning of this course.

Course Materials

- notebook
- computer with Internet connection and speakers or headphones
- Microsoft Word or equivalent
- Microsoft Excel or equivalent

Course Structure

Unit 1: Polynomial and Rational Expressions

This unit focuses on performing mathematical operations on polynomials. In this unit, you'll learn to find the sum, difference, and product of polynomials. You'll also multiply polynomials and monomials and divide polynomials by binomials.

Unit 2: Solving Quadratic Equations

The focus of this unit is solving quadratic equations. You'll solve quadratic equations by factoring. You'll also use the quadratic formula to find a solution set for a quadratic equation.

Unit 3: Equations and Inequalities

In this unit, you'll work with different types of equations and inequalities. You'll create equations to represent a given situation and solve them. You'll also write literal equations to solve math problems and solve linear inequalities by adding, subtracting, multiplying, and dividing. Later, you'll solve difficult linear inequalities by isolating the variable.

Unit 4: Higher Order Function Graphs

In this unit, you'll solve linear-quadratic systems algebraically and graphically. You'll see how the leading coefficient affects a parabola and find the intercepts and vertices of parabolas.

Unit 5: Statistics and Geometry

In this unit, you'll interpret differences in data sets and account for possible effects of extreme data points. You'll also summarize data in two-way frequency tables and interpret relative frequencies. Later in the unit, you'll use congruence and similarity criteria of triangles and volume formulas of cylinders, pyramids, cones, and spheres to solve problems. In a Course Activity, you'll use geometric modeling to solve problems involving density and displacement.