OAKS CHRISTIAN ONLINE

Algebra 2

Course Introduction

This Algebra 2 course will build on skills learned in Algebra 1 and will extend students' abilities in working with linear, quadratic and exponential functions to include logarithmic, polynomial, rational and radical functions as well. Throughout the course, students will learn to apply the arithmetic of the real number system to polynomials and rational expressions, will work with irrational and complex numbers, and will generalize patterns of function behavior in order to create new functions from existing ones and model real world situations mathematically. Students will also learn about trigonometry, beginning with a right triangle approach and extending to a unit circle approach. Students will learn to graph trigonometric functions and use them to model periodic behavior. Additionally, students will solve exponential and logarithmic equations as well as evaluate arithmetic and geometric sequences and series.

Course Description

Algebra 2 includes review and development of topics introduced in Algebra 1. New topics include logarithms, rational, exponential, and polynomial functions, quadratic inequalities, trigonometric functions and graphs, and arithmetic and geometric sequences and series. Students develop problem-solving skills and are challenged to think critically in preparation for advanced mathematical study in Pre-Calculus and Calculus.

This is a yearlong course consisting of 13 units. Upon successful completion students will receive 1 credit towards high school graduation.

Course Prerequisites

Minimum grade of a "C" in Geometry and Algebra 1.

Course Overview

Semester 1

- What is Algebra?
- Inequalities
- Linear Equations and Functions

- Products and Factors of Polynomials
- Rational Expressions
- Irrational and Complex Numbers
- Quadratic Equations

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Semester 2

- Polynomial Equations
- Analytic Geometry
- Exponential and Logarithmic Functions
- Sequences and Series

- Triangle Trigonometry
- Trigonometric Graphs

Required Course Materials

Please access the list of course materials from the OC Online book ordering system and order your materials as soon as possible. Oftentimes, course materials are on back order and you may experience a delay in receiving them, causing students to fall behind in their online coursework. When ordering used or rented materials, be careful that online access codes are also current.

Methods of Instruction

Students will view an instructional video for each lesson in this course and then complete a written assignment from the textbook. Additional practice is assigned through My Math Lab, which is an interactive online math program that will provide students immediate feedback on their work and offer help when needed. Students participate in end of unit discussions which will allow an opportunity to interact with classmates, as well as weekly synchronous sessions in which they can share questions and get answers directly from their instructor.

Methods of Evaluation

Student learning will be assessed through the following tools:

- Mid-unit quizzes
- End of unit tests
- Cumulative end of semester final exams

Daily My Math Lab assignments will be graded for completion. Participation in synchronous sessions and end of unit discussions is required and will also be counted in the student's grade.

Grading Policy:

Students will demonstrate mastery through the following formative and summative assessments:

- 40% Assignments
- 10% Participation (Discussion Posts, Synchronous Sessions)

- 10% Quizzes
- 25% Final Exam
- 15% Unit Tests