

Syllabus for Pre-Calculus

Welcome to Mr. Korey's class, you can email me at ekorey@fairview.k12.oh.us

Prerequisite: Algebra I, Geometry and Algebra II

Textbook

Algebra 2, 2001 McDougal Littell Inc.

Course Description

Pre-Calculus combines previous study of algebra, geometry, and mathematical functions into a preparatory course for calculus. The course focuses on mastery of critical skills and exposure to new skills necessary for success in subsequent math courses. Throughout the course, Common Core standards are taught and reinforced as the student learns how to apply the concepts in real life situations. Topics include fundamental concepts of Algebra, functions and graphs, polynomials and rational functions, exponential and logarithmic functions, trigonometric functions, analytic trigonometry, topics in trigonometry, systems of equations and inequalities, conic sections and analytic geometry, sequences, induction, probability, and an introduction to Calculus.

Course Learning Objectives

Upon completion of this course, you should be able to:

- €Recall and apply basic algebra skills.
- €Recall the definition of a function, basics of functions and their graphs, function operations, and function transformations.
- €Learn the basics of limits to help with the beginning of the calculus course.
- €Recognize various kinds of functions (including polynomial, rational, radical, exponential, and logarithmic functions), analyze their behavior, and use the properties of these functions to solve equations and application problems.
- €Define trigonometric functions; understand the right triangle trigonometry and unit circle.
- €Know and apply identities involving the trigonometric functions.
- €Recognize and solve systems of linear and nonlinear equations and inequalities.
- €Recognize the use of arithmetic and geometric sequences, use summation notation to represent a series, understand and use the Binomial theorem and understand mathematical induction.
- €Recognize conic sections and their geometric properties.
- €Understand the basic concepts of limits

Course Lessons

The following lessons are covered in semester 1

Topics

Ch. 6 Polynomial Functions

Ch. 7 Powers, Roots, and Radicals

Ch. 8 Exponential and Logarithmic Functions

Ch. 9 Rational Equations and Functions

Ch. 10 Quadratic Relations and Conic Sections

The following lessons are covered in semester 2

Topics

Ch. 13 Quick Review of Trigonometric Ratios and Functions

Ch. 14 Trigonometric Graphs, Identities, and Equations

Ch. 11 Sequences and Series

Ch. 12 Probability and Statistics

Major Assignments/Projects

- Homework will be assigned throughout each chapter, typically on a daily basis.
- Quizzes will be given throughout each chapter based on teacher discretion.
- Chapter reviews will more often than not precede chapter tests.
- There will be a test at the end of each chapter.
- Weekly reading assignments will be evaluated with a written summary.
- Students will be required to complete one weeklong project each semester.
- A cumulative exam may be given at the end of each semester.
- To determine that students are achieving course goals at a proficient level, students are required to produce work at a proficient or advanced level. Students will demonstrate their proficiency by completing all homework assignments, reviews, quizzes, tests, reading assignments, projects, and exams. All of which will require students to apply, analyze, synthesize, and/or evaluate concepts, skills, and information learned (and discovered) in class, based on content standards. These assignments may also require students to decipher or produce graphs, tables, and/or charts.

Late or Missing Work Policy

- Students are expected to turn in assignments as they are due. Late assignments will be given partial credit. Missing work will eventually turn into zero credit. Check with your teacher for more information.
- Students with a verified excused absence are allowed to make up late work without penalty in accordance with the school policy published in the student handbook.
- **Extra-Help**
- Students are encouraged to seek additional help as needed. Extra help will also be available from your teacher by appointment before or after school or at a time convenient for all involved. Please email ekorey@fairview.k12.oh.us with any questions.

