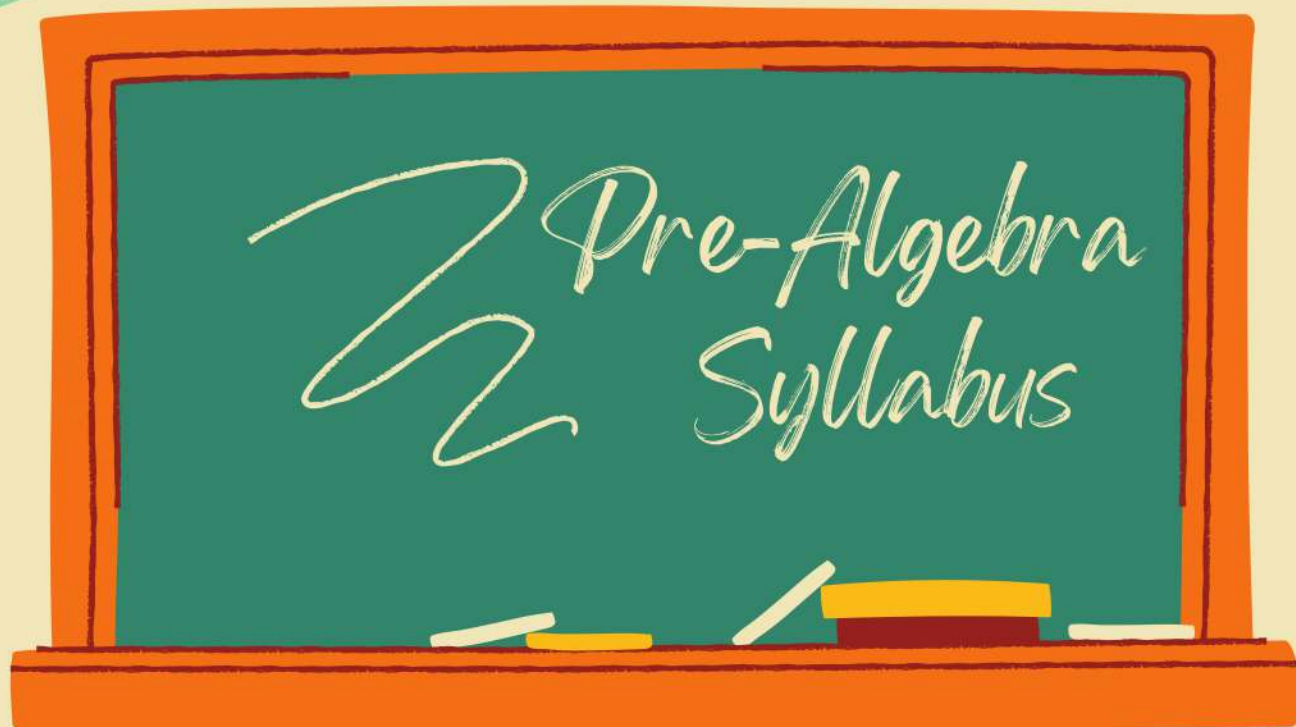Aim Academy Online

Pre-Algebra Syllabus

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Required Materials:

- *Transition Math,* **3rd Edition**, The University of Chicago School Math Program, ISBN 13: 978-1-943237-04-3 (2008, print), or 978-1-943237-32-6 (2016, online)
- Graphing Calculator - TI-83 or TI-84 (any version will work)
- Scanner or smart phone
- Computer (not tablet) with Web cam, sound card, and microphonne

Course Description

This course will serve as a bridge from the foundation of arithmetic, learned in elementary grades, to formal algebra and geometry of high school. Students continue to hone skills while extending reasoning and problem solving. Real-world connections are emphasized, as well as use of technology.

EVALUATION & GRADING

Grading

Homework: 20%

Quizzes: 25%

Tests: 45%

Participation: 10%

Please note that any assignments that are one week late will automatically lose 15% from the score. A request for a due-date extension MUST be submitted BEFORE the due-date.

Assignments

Homework: Daily work includes exercises from the text and/or practice in the Delta Math app. These assignments may be attempted as many times as needed to achieve a desired score.

Quizzes: Each chapter module will include 1-2 quizzes. Although there is only one attempt allowed for quizzes, they are open-note assignments.

Tests: All are closed book and closed notes. These are taken through Canvas, however, handwritten work is still expected. At the end of each, there is a place to upload that work.

Participation

Be prepared: Come to class ready to discuss the topics of the day, to ask questions about problems you do not understand, and to help others if they need it.

Be respectful: Have your webcam turned on and noise in the background turned off. Pay close attention to those speaking in class, including fellow students.

Be responsible: Your participation grade will reflect your contribution to answering questions, asking questions, and class tone.

COURSE OBJECTIVES

Numbers

- Classify integer, rational, irrational, and real numbers
- Employ the order of operations
- Calculate using powers of numbers and scientific notation
- Estimate square roots
- Plot points on coordinate graphs
- Order and compare decimals
- Convert among decimals, fractions, and percents
- Use and calculate proportions

Variables

- Translate between English involving arithmetic operations and mathematical language
- Evaluate algebraic expressions and formulas
- Recognize and write rules for patterns in real-world situations
- Graph solutions to inequalities

Sets

- Determine union and intersection of sets
- Distinguish an hypothesis form a conclusion
- State the converse of a conditional statement
- Apply hierarchies and Venn diagrams to real-world situations

Geometry

- Identify and draw basic figures and polygons
- Calculate area of 2-dimensional figures, as well as surface area and volume of 3-dimensional figures
- Use properties of figures to calculate values
- Recognize and perform translations, rotations, reflections, and dilations
- Use similarity of figures to make calculations

Operations

- Basic operations on positive and negative integers
- Evaluate absolute values
- Recognize, represent, and use properties
- Model real-world situations that use operations

Equations & Inequalities

- Evaluate equations and inequalities
- Graph linear equations
- Solve linear equations and inequalities - graphically and algebraically
- Translate information from real-world situations into equations or inequalities and solve them

Probability & Statistics

- Calculate probabilities of independent events
- Calculate measures of central tendency
- Interpret information from displays of data
- Create displays of data for given information

COURSE SCHEDULE

Chapter 1 Reading and Writing Numbers
.... Ch1 Test

Chapter 2 Using Variables
.... Ch2 Test

Chapter 3 Representing Numbers
.... Cumulative Ch3 Test

Chapter 4 Representing Sets of Numbers and Shapes
.... Ch4 Test

Chapter 5 Patterns Leading to Addition & Subtraction
.... Ch5 Test

Chapter 6 Some Important Geometry Ideas
.... Cumulative Ch6 Test

Chapter 7 Multiplication in Geometry
.... Ch7 Test

Chapter 8 Multiplication in Algebra
.... Ch8 Test

Chapter 9 Patterns Leading to Division
.... Cumulative Ch9 Test

Chapter 10 Linear Equations & Inequalities
.... Ch10 Test

Chapter 11 Geometry in Space
.... Ch11 Test

Chapter 12 Statistics & Variability
.... Final Exam

"THE ONLY WAY TO LEARN MATHEMATICS IS TO DO MATHEMATICS." -PAUL HALMOS