

# 2629 Transitional Math (Khan Academy)

## Course Overview

### Course Description

The Transitional Math course is designed to bridge the old and new math standards. Students will master skills that are foundational to the understanding of beginning algebra concepts. Additionally, they will be exposed to new standards of mathematical practice which include using math in context, problem solving, modeling, and thinking abstractly. Students will also be exposed to some beginning geometry and statistical concepts. Upon completion of this course, students will be ready to take a college prep Integrated Math 1 course.

### Final Exam

All students are required to take a final exam at the end of each semester. The final exam counts 20% of the grade. A practice version of the final is posted in Canvas. Calculators are NOT allowed on the final exam.

### Curriculum

The following curriculum is required for this course: [Kahn Academy Online](#).

### Prerequisites

Students taking this course must have successfully completed a Common Core Math 7 course or must demonstrate mastery of the basic math skills needed for success with Pre-Algebra concepts.

### Student Expectations

Students will be expected to complete daily assignments leading to standards-based assessments that will focus on specific skills that students have practiced in the assignments. It is the student's responsibility to make sure that all problems assigned are fully understood and that the skills related to those problems are mastered. Students must seek help from their math specialist on any concepts that they do not understand after repeated practice.

### Parent Expectations

Parents are the primary teacher in a home-study educational environment. Parents are responsible for setting up a work schedule for their students and making sure that the student is regularly engaged in the learning process. The parent must check assignments for accuracy, have the student review concepts that have not been mastered, ask students to explain verbally or in writing the solution process to different problems, and quiz students by selecting random problems from the assignment for the student to complete.

in order to demonstrate mastery of the concept. Parents are also responsible for making sure that completed assessments are sent to the math specialist to be graded.

### **Types of Assignments**

There are four types of assignments that will be listed on the assignment sheet that you receive from your facilitator.

The first type of assignment is a daily practice assignment. These will be checked by the facilitator at each monthly meeting. The facilitator will send a grade to the specialist based upon the completion of daily practice assignments. The math specialist reserves the right to see all daily practice assignments so keep all work organized in a notebook or binder.

The second type of assignment is a quickcheck. Quickchecks are designed to see if the student is mastering the basic concepts and keeping up with the pace of the course. Students are allowed to seek help or use their book in completing a quickcheck.

The third type of assignment is a benchmark. A benchmark is a test that the student needs to complete after each unit in the course. The benchmarks will test all topics from that unit. A practice benchmark will be available for each benchmark. Students should make sure that they fully understand every problem on the practice benchmark before attempting the benchmark. It is a good idea for students to review the practice benchmark with a tutor. Students may NOT use any notes or books and may NOT get help from a parent or teacher when completing a benchmark.

The fourth type of assignment is a semester final exam. A study guide will be available in JCS Online for the final exam. The final exam will be given during the last week of the semester at a JCS site and will be proctored. The final exam will count 20% of the overall grade.

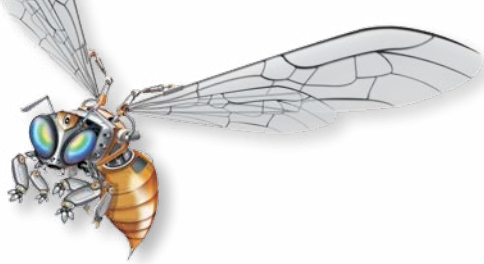
All quickchecks and benchmarks will be available for students to download in Canvas. Each quickcheck and benchmark needs to be submitted to the math specialist. In cases where students do not have internet access, other arrangements will be made for students to receive the quickchecks and benchmarks.

### **Grading**

The overall student grade will be determined by combining the grades from daily practice assignments, quickchecks, benchmarks, and final exam as follows:

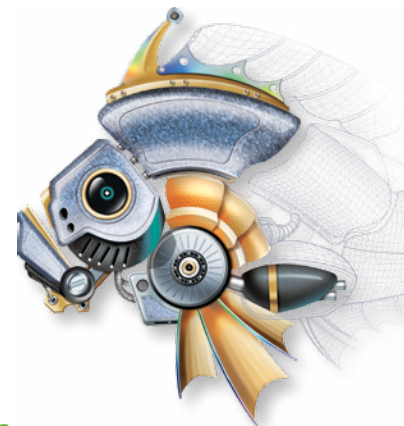
Daily Assignments (grade determined by EF)	= 30%
Quickchecks	= 5%
Benchmarks	= 40%
Final Exam	= 20%

Math specialists will regularly post student grades on in Canvas.



# Pearson Integrated High School Mathematics

## *MATHEMATICS I*



## Contents

### Chapter 1 Solving Equations and Inequalities

- Lesson 1-1: The Distributive Property
- Lesson 1-2: Solving Multi-Step Equations
- Lesson 1-3: Solving Equations with Variables on Both Sides
- Lesson 1-4: Literal Equations and Formulas
- Lesson 1-5: Ratios, Rates, and Conversions
- ACTIVITY LAB 1-5a: Unit Analysis
- ACTIVITY LAB 1-5b: Accuracy and Measurement
- Lesson 1-6: Solving Proportions
- Lesson 1-7: Solving Multi-Step Inequalities
- Lesson 1-8: Compound Inequalities
- Lesson 1-9: Absolute Value Equations and Inequalities

### Chapter 2 An Introduction to Functions

- Lesson 2-1: Using Graphs to Relate Two Quantities
- Lesson 2-2: Patterns and Linear Functions
- Lesson 2-3: Patterns and Nonlinear Functions
- Lesson 2-4: Graphing a Function Rule
- TECHNOLOGY LAB 2-4: Graphing Functions and Solving Equations
- Lesson 2-5: Writing a Function Rule
- Lesson 2-6: Formalizing Relations and Functions
- TECHNOLOGY LAB 2-6: Even and Odd Functions
- Lesson 2-7: Arithmetic Sequences
- LESSON LAB 2-7: The Fibonacci Sequence

### Chapter 3 Linear Functions

- Lesson 3-1: Rate of Change and Slope
- Lesson 3-2: Direct Variation
- TECHNOLOGY LAB 3-3: Investigating  $y = mx + b$
- Lesson 3-3: Slope-Intercept Form
- Lesson 3-4: Point-Slope Form
- Lesson 3-5: Standard Form
- Lesson 3-6: Slopes of Parallel and Perpendicular Lines
- Lesson 3-7: Graphing Absolute Value Functions

### Chapter 4 Systems of Equations and Inequalities

- Lesson 4-1: Solving Systems by Graphing
- TECHNOLOGY LAB 4-1: Solving Systems Using Tables and Graphs
- Lesson 4-2: Solving Systems Using Substitution
- Lesson 4-3: Solving Systems Using Elimination
- Lesson 4-4: Applications of Linear Systems
- Lesson 4-5: Linear Inequalities
- Lesson 4-6: Systems of Linear Inequalities

# MATHEMATICS / Contents (continued)

## Chapter 5 Exponential and Radical Functions

Lesson 5-1: Zero and Negative Exponents  
Lesson 5-2: Exponential Functions  
Lesson 5-3: Comparing Linear and Exponential Functions  
Lesson 5-4: Exponential Growth and Decay  
LESSON LAB 5-4: Using Properties of Exponents to Transform Functions  
Lesson 5-5: Solving Exponential Equations  
Lesson 5-6: Geometric Sequences  
Lesson 5-7: Combining Functions  
Lesson 5-8: Simplifying Radicals  
Lesson 5-9: Radical and Piecewise Functions

## Chapter 6 Data Analysis

Lesson 6-1: Frequency and Histograms  
Lesson 6-2: Measures of Central Tendency and Dispersion  
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Lesson 6-4: Scatter Plots and Trend Lines  
ACTIVITY LAB 6-4: Using Residuals  
Lesson 6-5: Two-Way Frequency Tables

## Chapter 7 Tools of Geometry

Lesson 7-1: Nets and Drawings for Visualizing Geometry  
Lesson 7-2: Points, Lines, and Planes  
Lesson 7-3: Measuring Segments  
Lesson 7-4: Measuring Angles  
Lesson 7-5: Exploring Angle Pairs  
Lesson 7-6: Midpoint and Distance in the Coordinate Plane  
LESSON LAB 7-6: Quadrilaterals and Other Polygons

## Chapter 8 Transformations

ACTIVITY LAB 8-1: Tracing Paper Transformations  
Lesson 8-1: Translations  
ACTIVITY LAB 8-2: Paper Folding and Reflections  
Lesson 8-2: Reflections  
Lesson 8-3: Rotations  
ACTIVITY LAB 8-3: Symmetry  
TECHNOLOGY LAB 8-4: Exploring Multiple Transformations  
Lesson 8-4: Compositions of Isometries

## Chapter 9 Connecting Algebra and Geometry

Lesson 9-1: Perimeter and Area in the Coordinate Plane  
LESSON LAB 9-1: Partitioning a Segment  
Lesson 9-2: Areas of Parallelograms and Triangles  
Lesson 9-3: Areas of Trapezoids, Rhombuses, and Kites  
ACTIVITY LAB 9-4: Proving Slope Criteria for Parallel and Perpendicular Lines  
Lesson 9-4: Polygons in the Coordinate Plane

## Chapter 10 Reasoning and Proof

Lesson 10-1: Basic Constructions  
Lesson 10-2: Patterns and Inductive Reasoning  
Lesson 10-3: Conditional Statements  
Lesson 10-4: Biconditionals and Definitions  
Lesson 10-5: Deductive Reasoning  
Lesson 10-6: Reasoning in Algebra and Geometry  
Lesson 10-7: Proving Angles Congruent

## Chapter 11 Proving Theorems About Lines and Angles

Lesson 11-1: Lines and Angles  
Lesson 11-2: Properties of Parallel Lines  
Lesson 11-3: Proving Lines Parallel  
Lesson 11-4: Parallel and Perpendicular Lines  
Lesson 11-5: Parallel Lines and Triangles  
Lesson 11-6: Constructing Parallel and Perpendicular Lines

## Chapter 12 Congruent Triangles

Lesson 12-1: Congruent Figures  
Lesson 12-2: Triangle Congruence by SSS and SAS  
Lesson 12-3: Triangle Congruence by ASA and AAS  
Lesson 12-4: Using Corresponding Parts of Congruent Triangles  
ACTIVITY LAB 12-5: Paper-Folding Conjectures  
Lesson 12-5: Isosceles and Equilateral Triangles  
Lesson 12-6: Congruence in Right Triangles  
Lesson 12-7: Congruence in Overlapping Triangles  
LESSON LAB 12-8: Review of Transformations  
Lesson 12-8: Congruence Transformations

# MATHEMATICS / Contents (continued)

## Chapter 13 Proving Theorems About Triangles

- Lesson 13-1: Mid-segments of Triangles
- Lesson 13-2: Perpendicular and Angle Bisectors
- Lesson 13-3: Bisectors in Triangles
- Lesson 13-4: Medians and Altitudes
- Lesson 13-5: Indirect Proof
- Lesson 13-6: Inequalities in One Triangle
- Lesson 13-7: Inequalities in Two Triangles

## Chapter 14 Proving Theorems About Quadrilaterals

- Lesson 14-1: The Polygon Angle-Sum Theorems
- Lesson 14-2: Properties of Parallelograms
- Lesson 14-3: Proving That a Quadrilateral is a Parallelogram
- Lesson 14-4: Properties of Rhombuses, Rectangles, and Squares
- Lesson 14-5: Conditions for Rhombuses, Rectangles, and Squares
- Lesson 14-6: Trapezoids and Kites
- Lesson 14-7: Applying Coordinate Geometry
- Lesson 14-8: Proofs Using Coordinate Geometry

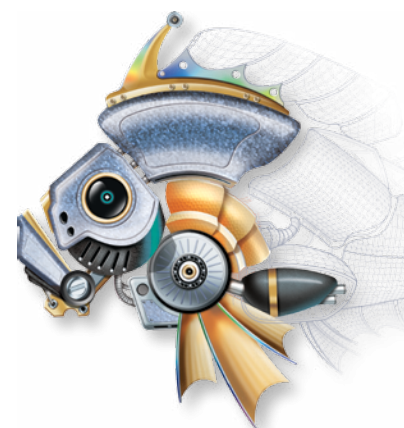
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# Pearson Integrated High School Mathematics

## *MATHEMATICS II*



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- Lesson 1-2: Patterns and Inductive Reasoning
- Lesson 1-3: Conditional Statements
- Lesson 1-4: Biconditionals and Definitions
- Lesson 1-5: Deductive Reasoning
- Lesson 1-6: Reasoning in Algebra and Geometry
- Lesson 1-7: Proving Angles Congruent

### Chapter 2 Proving Theorems About Lines and Angles

- Lesson 2-1: Lines and Angles
- Lesson 2-2: Properties of Parallel Lines
- Lesson 2-3: Proving Lines Parallel
- Lesson 2-4: Parallel and Perpendicular Lines
- Lesson 2-5: Parallel Lines and Triangles
- Lesson 2-6: Constructing Parallel and Perpendicular Lines

### Chapter 3 Congruent Triangles

- Lesson 3-1: Congruent Figures
- Lesson 3-2: Triangle Congruence by SSS and SAS
- Lesson 3-3: Triangle Congruence by ASA and AAS
- Lesson 3-4: Using Corresponding Parts of Congruent Triangles
- ACTIVITY LAB 3-5: Paper-Folding Conjectures
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### Chapter 3 (continued)

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- Lesson 4-5: Indirect Proof
- Lesson 4-6: Inequalities in One Triangle
- Lesson 4-7: Inequalities in Two Triangles

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- Lesson 5-1: The Polygon Angle-Sum Theorems
- Lesson 5-2: Properties of Parallelograms
- Lesson 5-3: Proving That a Quadrilateral is a Parallelogram
- Lesson 5-4: Properties of Rhombuses, Rectangles, and Squares
- Lesson 5-5: Conditions for Rhombuses, Rectangles, and Squares
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- Lesson 5-7: Applying Coordinate Geometry
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Lesson 14-3: Piecewise Functions  
Lesson 14-4: Combining Functions  
LESSON LAB 14-4: Composition and Inverse Functions

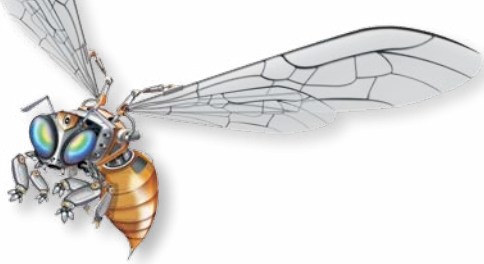
## Chapter 15 Sequences and Series

Lesson 15-1: Mathematical Patterns  
Lesson 15-2: Arithmetic Sequences  
Lesson 15-3: Geometric Sequences  
Lesson 15-4: Arithmetic Series  
ACTIVITY LAB 15-5: Geometry and Infinite Series  
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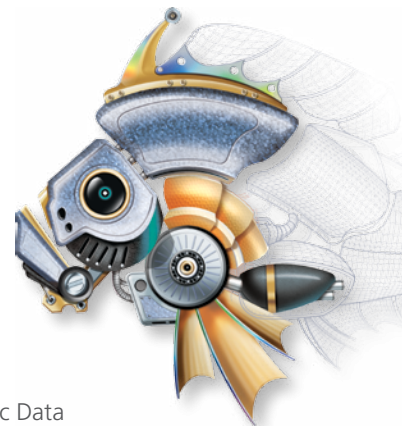
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# Pearson Integrated High School Mathematics

## ***MATHEMATICS III***



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### Chapter 2 Linear Equations, Inequalities, and Functions

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Lesson 3-6: The Quadratic Formula  
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Lesson 3-9: Circles in the Coordinate Plane

### Chapter 4 Polynomials and Polynomial Functions

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## Chapter 7 Exponential and Logarithmic Functions

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## Chapter 9 Sequences and Series

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Lesson 9-2: Arithmetic Sequences  
Lesson 9-3: Geometric Sequences  
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ACTIVITY LAB 9-5: Geometry and Infinite Series  
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## Chapter 10 Applying Geometric Concepts

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## Chapter 11 Connecting Algebra and Geometry

Lesson 11-1: Perimeter and Area in the Coordinate Plane  
LESSON LAB 11-1: Partitioning a Segment  
Lesson 11-2: Areas of Parallelograms and Triangles  
Lesson 11-3: Areas of Trapezoids, Rhombuses, and Kites  
ACTIVITY LAB 11-4: Proving Slope Criteria for Parallel and Perpendicular Lines  
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## Chapter 12 Circles

Lesson 12-1: Circles and Arcs  
Lesson 12-2: Areas of Circles and Sectors  
ACTIVITY LAB 12-2: Circles and Radians  
Lesson 12-3: Tangent Lines  
Lesson 12-4: Chords and Arcs  
Lesson 12-5: Inscribed Angles  
Lesson 12-6: Angle Measures and Segment Lengths

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# 2529 Trig/Pre-Calc

## Course Guide

### Course Description

This course is designed to meet California State Standards in both Math Analysis and Trigonometry. This course is a college preparatory course designed to prepare students for college-level or advanced placement math courses. The goal of this course is for students to master topics introduced in Algebra II at a deeper level such as quadratic functions, polynomial functions, rational functions, complex numbers, exponential and logarithmic functions and conic sections. These topics are included in the Math Analysis standards. Additionally, this course introduces trigonometry and includes graphing trigonometric functions, inverse functions, solving trigonometric equations, identities, and problem solving using trigonometry. Trigonometry also serves as a foundation for topics such as polar coordinates, vectors, and parametric equations. Mastery of these topics is essential for success at higher levels of math such as Calculus. This course is designed for student who will be attending a 4-year college or university.

### Final Exam

All students are required to take a final exam at the end of each semester. The final exam counts 20% of the grade. A practice version of the final is posted in Blue Mouse. Calculators are NOT allowed on the final exam.

### JCS Curriculum Choices

The following curriculum choices are available for this course:

- Houghton Mifflin Precalculus with Limits (with instructional DVD's)

Students may also follow an outline based upon the standards by using any curriculum that meets CA state standards for Advanced Mathematics and Trigonometry.

- Standards Based

### Prerequisites

Students taking this course must have successfully completed Algebra 2 with a grade of C or above.

### Student Expectations

Students will be expected to complete daily assignments leading to standards-based assessments that will focus on specific skills that students have practiced in the assignments. It is the student's responsibility to make sure that all problems assigned are fully understood and that the skills related to those problems are mastered. Students must seek help from their math specialist on any concepts that they do not understand after repeated practice.

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The first type of assignment is a daily practice assignment. These will be checked by the facilitator at each monthly meeting. The facilitator will send a grade to the specialist based upon the completion of daily practice assignments. The math specialist reserves the right to see all daily practice assignments so keep all work organized in a notebook or binder.

The second type of assignment is a quickcheck. Quickchecks are designed to see if the student is mastering the basic concepts and keeping up with the pace of the course. Students are allowed to seek help or use their book in completing a quickcheck.

The third type of assignment is a benchmark. A benchmark is a test that the student needs to complete after each unit in the course. The benchmarks will test all topics from that unit. A practice benchmark will be available for each benchmark. Students should make sure that they fully understand every problem on the practice benchmark before attempting the benchmark. It is a good idea for students to review the practice benchmark with a tutor. Students may NOT use any notes or books and may NOT get help from a parent or teacher when completing a benchmark.

The fourth type of assignment is a semester final exam. A study guide will be available in JCS Online for the final exam. The final exam will be given during the last week of the semester at a JCS site and will be proctored. The final exam will count 20% of the overall grade.

All quickchecks and benchmarks will be available for students to download in JCS Online. Each quickcheck and benchmark needs to be sent (scanned and emailed, mailed, faxed, delivered to a JCS site, etc) to the math specialist. In cases where students do not have internet access, other arrangements will be made for students to receive the quickchecks and benchmarks.

## Grading

The overall student grade will be determined by combining the grades from daily practice assignments, quickchecks, benchmarks, and final exam as follows:

Daily Assignments (grade determined by EF)	= 30%
Quickchecks	= 5%
Benchmarks	= 45%
Final Exam	= 20%

Math specialists will regularly post student grades on in JCS Online.