

# ALGEBRA I

## SUMMER LEARNING JOURNAL



Name: \_\_\_\_\_

Elementary  
School: \_\_\_\_\_

## **Summer Algebra 1 Learning Packet Overview**

For Rising 9th Grade Students

Welcome to Marion P. Thomas Charter School! This summer packet is designed to help you review and strengthen the key prerequisite skills needed for success in Algebra 1. Completing this work will help you start the school year confident and prepared for the challenges ahead.

### **How to Complete the Packet:**

Each page of this packet focuses on a specific topic. At the top of each page, you will find the title of a corresponding Edpuzzle video playlist. As you work through each section, you must watch and complete the Edpuzzle video while completing the notes/scrap paper section.

### **Grading:**

You will receive two assessment grades for this assignment: one grade for your notes/scrap paper and one grade for your Edpuzzle score based on the multiple-choice questions. Both your completed Edpuzzles and your physical packet will count toward your first assessment grade for Algebra 1.

### **Expectations:**

If you have not already done so, write your full name on the front of this packet. Answer all questions thoroughly. Show all work in the space provided in your packet. Stay organized and pace yourself throughout the summer. Complete all sections before the first day of school.

### **Submission & Deadline:**

The packet is due on the first day of school, August 31st. You must submit your completed packet in person to your teacher during your first class. If the packet is not completed you will attend Saturday tutoring until the packet is complete.

By dedicating time to review and practice these essential skills, you are setting yourself up for a strong and successful start in Algebra 1. I look forward to seeing your hard work and effort. If you have any questions, please contact Ms. Severe at [bsevere@mptcs.org](mailto:bsevere@mptcs.org) or Mr. Mvula at [jmvula@mptcs.org](mailto:jmvula@mptcs.org).

## Table Of Contents

### ALGEBRA 1 Summer Learning Part 1

- Finding the Least Common Multiple.
- Multiples and Factors (Problem Based).
- Distributive Property with Numerical Expressions (Greatest Common Factors).
- Factoring Variable Expressions (Tape Diagrams).
- Factoring Variable Expressions.

### ALGEBRA 1 Summer Learning Part 2

- Converting Percents into Decimals
- Ordering Decimals, Percents, and Fractions (Number Line)
- Multi-Step Decimal Calculations (Problem Based)
- Adding and Subtracting Decimals (Problem Based)
- Multi-Step Word Problem (with Negative Numbers)
- Multi-Step Word Problems (Estimating Solutions)

### ALGEBRA 1 Summer Learning Part 3

- Introduction to Absolute Values
- Ordering Rational Numbers including Absolute Value
- Comparing Absolute Value (Inequalities)
- Distance on a Number Line (Problem Based)
- Comparing Real Numbers
- Adding Integers with the Same Sign (Integer Counters)
- Adding Integers with Different Signs (Integer Counters)
- Comparing Integers (Problems Based)
- Interpreting Points on a Coordinate Plane (Real World Examples)
- Plotting Points on a Coordinate Plane (Real World Examples)
- Reading Points on a Coordinate Plane (Real World Examples)
- Reflecting a Point over the x-Axis
- Reflecting a Point over the y-Axis
- Determine the Sign of a Product
- Dividing Negative Fractions
- Subtracting Negative Integers (Number Lines)
- Subtracting an Integers (Problem Based)
- Introduction to Integers
- Introduction to Negative Numbers
- Identifying Opposites (Number Line)
- Representing Real-World Scenarios on a Number Line
- Comparing Integers Using Inequalities

### ALGEBRA 1 Summer Learning Part 4

- Evaluating Powers
- Negative Exponents (Evaluating)
- Simplifying Expressions with Powers (Negative Exponents)
- Exponents and Area
- Exponents and Volume
- Product of Powers
- Quotient of Powers
- Equivalent Exponential Expressions
- Reading Scientific Notation on a Calculator
- Evaluating Square Roots (Perfect Squares)
- Estimating Square Roots
- Square Roots (Area Applications)

#### ALGEBRA 1 Summer Learning Part 5

- Identifying Operations
- Identifying Operations (Addition and Subtraction)
- Identifying Operations (Multiplication and Division)
- Identifying Parts of an Expression
- Simplifying Variable Expressions
- Writing Equivalent Variable Expressions (Associative Property)
- Writing Equivalent Expressions with Multiplication
- Combining Like Terms
- Combining Like Terms (Including Negatives)
- Adding Variable Expressions
- Subtracting Variable Expressions
- Adding Variable Expressions (Finding Perimeter)
- Subtracting Variable Expressions (Given Perimeter)
- Distributive Property (Mental Math)
- Evaluating Variable Expressions
- Evaluating Variable Expressions (Rational Numbers)
- Writing Variable Expressions (Addition & Subtraction)
- Writing Variable Expressions (Multiplication & Division)
- Writing Variable Expressions (Multi-Step)
- Writing Variable Expressions (Problem Based)
- Writing Variable Expressions (with Grouping Symbols)
- Writing Variable Expressions (Multi-Step Problem Based)
- Writing Expressions (Problem Based)
- Translating Variable Expressions

#### ALGEBRA 1 Summer Learning Part 6

- Checking Solutions to Equations
- Writing Equations (Verbal Descriptions)

- Writing One-Step Equations (Visual Models)
- Solving One-Step Equations (Balance Strategies)
- Solving One-Step Equations (Addition/Subtraction)
- Solving One-Step Equations (Multiplication/Division)
- Solving One-Step Equations
- Identifying Variables in Word Problems
- Writing One-Step Equations (Problem Based)
- Writing and Solving One-Step Equations (Problem Based)
- Writing Two-Step Equations (Balance Models)
- Writing Two-Step Equations (Tape Diagrams)
- Solving Two-Step Equations (Balance Strategies)
- Solving Variable Equations with Grouping Symbols (Tape Diagrams)
- Solving Two-Step Equations
- Solving Two-Step Equations (Integers)
- Solving Two-Step Equations (Fractional Coefficients)
- Solving Two-Step Equations (Decimals)
- Solving Two-Step Equations (Fractions)
- Writing Two-Step Equations (Problem Based)
- Problem Based Two-Step Equations

#### ALGEBRA 1 Summer Learning Part 7

- Introduction to Inequalities
- Graphing Inequalities (Positive Numbers)
- Graphing Inequalities (Negative Numbers)
- Graphing Inequalities (Problem Based)
- Matching Graphs to Solutions of One-Step Inequalities
- Matching Graphs to Solutions of One-Step Inequalities (Negative Coefficient)
- Matching Graphs to Solutions of Two-Step Inequalities
- Matching Graphs to Solutions of Two-Step Inequalities (Negative Coefficient)
- Matching Graphs to Solutions of Multi-Step Inequalities
- Solving One-Step Inequalities
- Solving One-Step Inequalities (Integers)
- Solving One-Step Inequalities (Negative Coefficient)
- Writing and Solving One-Step Inequalities (Verbal Descriptions)
- Writing and Solving One-Step Inequalities (Problem Based)
- Solving Two-Step Inequalities
- Solving Two-Step Inequalities (Negative Coefficients)
- Solving Two-Step Inequalities (Rational Numbers)
- Writing and Solving Two-Step Inequalities (Verbal Descriptions)

#### ALGEBRA 1 Summer Learning Part 8

- Time Conversions
- Metric Conversions

- Metric Conversions (Multi-Step)
- Customary Conversions (Multi-Step)
- Introduction to Proportions
- Solving Proportions
- Solving Multi-Step Proportions
- Solving Problem Based Proportions
- Solving Problem Based Multi-Step Proportions
- Solving Proportions (Cross Multiplication)
- Introduction to Proportionality
- Determining if Ratios are Proportional
- Determining if Ratios are Proportional (Cross Multiplication)
- Determining if Ordered Pairs are Proportional
- Identifying Proportional Ordered Pairs (Graph)
- Identifying Proportional Ordered Pairs (Table)
- Comparing Constants of Proportionality (Graphs)
- Comparing Constants of Proportionality (Verbal Descriptions)
- Creating Proportional Tables
- Creating Proportional Graphs
- Creating Proportional Tables from Equations
- Creating Proportional Graphs from Equations
- Creating Proportional Tables from Verbal Descriptions
- Interpreting the Constant of Proportionality in Equations
- Completing Proportional Tables
- Introduction to Proportional Equations ( $y = kx$ )
- Writing Equations from Proportional Tables
- Writing Proportional Equations from Verbal Descriptions (Simplifying)
- Interpreting Points on Proportional Graphs
- Introduction to Unit Rates
- Finding Unit Rates
- Finding Unit Costs
- Completing Tables Using Unit Rates
- Comparing Unit Rates
- Comparing Unit Costs
- Writing Ratios (from Sentence Form)
- Creating Ratio Tables
- Writing Equivalent Ratios (Missing Value)
- Determining if Ratios are Equivalent
- Solving Ratio Problems (Tables)
- Comparing Ratios (Part-to-Part)
- Comparing Ratios (Part-to-Whole)
- Solving Ratio Problems (Multiplication)

- Introduction to Percents
- Identifying Part, Whole, and Percent
- Identifying Percents on a Model
- Using Double Number Lines to Find the “Part” of a Percent Problem
- Using Double Number Lines to Find the “Whole” of a Percent Problem
- Using Double Number Lines to Find the Percent
- Using Double Number Lines to Solve Percent Problems
- Using Double Number Lines to Find the “Part” of a Percent Problem (Problem Based)
- Using Double Number Lines to Find the “Whole” of a Percent Problem (Problem Based)
- Using Double Number Lines to find the Percent (Problem Based)
- Using Double Number Lines to Solve Percent Problems (Problem Based)
- Using Double Number Lines to Solve Multi-Step Percent Problems (Problem Based)
- Using Equivalent Ratios to Find the “Part” (Simplifying)
- Using Equivalent Ratios to Find the “Whole” (Simplifying)
- Using Equivalent Ratios to Find the Percent (Simplifying)
- Using Equivalent Ratios to Solve Percent Problems (Simplifying)
- Using Equivalent Ratios to Find the “Part”
- Using Equivalent Ratios to Find the “Whole”
- Using Equivalent Ratios to Find the Percent
- Using Equivalent Ratios to Solve Percent Problems
- Using Equivalent Ratios to Find the “Part” of a Percent Problem (Problem Based)
- Using Equivalent Ratios to Find the “Whole” of a Percent Problem (Problem Based)
- Using Equivalent Ratios to Find the Percent (Problem Based)
- Using Equivalent Ratios to Solve Percent Problems (Problem Based)

#### ALGEBRA 1 Summer Learning Part 10

- Identifying Median (Data Sets)
- Identifying Mean (Data Sets)
- Identifying Mode (Data Sets)
- Identifying Range (Data Sets)
- Interpreting Data Sets
- Describing How Data Adjustments Change the Mean, Median, and Range

#### ALGEBRA 1 Summer Learning Part 11

- Introduction to Circles
- What is Pi?
- Finding Circumference
- Area of Circles
- Determining Circumference or Area (Problem Based)
- Finding Area Given Circumference
- Area of Circles (Answers in Terms of  $\pi$ )
- Area of Circles (Multi-Step Problems)
- Area of Circles (Problem Based)

- Finding Radius and Diameter Given Area

### ALGEBRA 1 Summer Learning Part 12

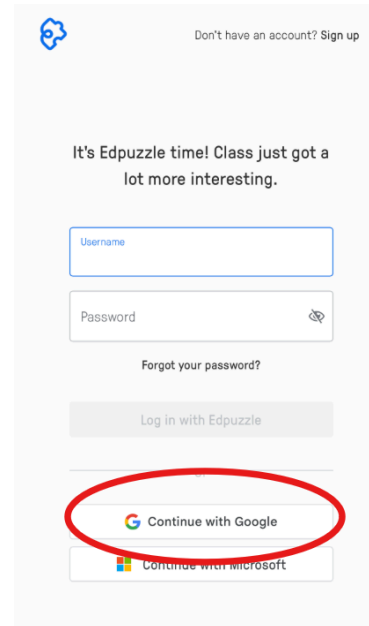
- Perimeter of Polygons
- Finding Missing Lengths Given Perimeter (Polygons)
- Perimeter of Rectangles and Squares (Formulas)
- Area of Rectangles
- Determining Perimeter or Area (Problem Based)
- Finding Area of Rectangles Given Perimeter
- Finding Perimeter of Rectangles Given Area
- Finding the Missing Dimension Given Area (Rectangles)

**Step 1:** Access the course by following one of the steps below

Access the Course  
by Phone



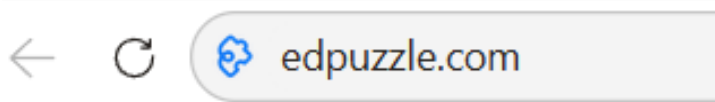
**FIRST,** Scan QR Code Above



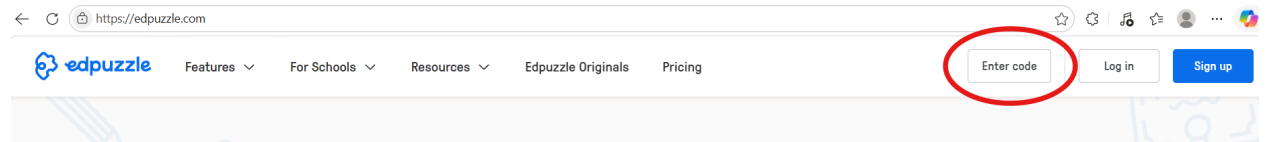
**SECOND,** Click on the option Continue With Google

Access the Course  
by Chromebook

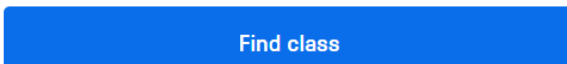
**FIRST,** Type in [Edpuzzle.com](https://edpuzzle.com) in the toolbox as seen below:



**SECOND,** Click here to enter the code:



**THIRD,** Enter the code below it is.. **camkowa** then click find class

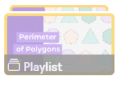




**Step 2** Click here

The screenshot shows the Edpuzzle interface for a class titled "ALGEBRA 1 Summer Work". At the top, there is a navigation bar with the Edpuzzle logo, a language dropdown set to "English (US)", and a "Leave open class" button. Below this is a blue banner with a welcome message: "Welcome! Ask your teacher to create some quizzes or slides to see Edpuzzle's exciting new activities!". The main content area shows "Open class" with a "New!" tag, the class title "ALGEBRA 1 Summer Work", and a subtitle "Summer Assignment (30% of your Marking Period 1 grade)". The class code "camkowa" is displayed on the right. There are tabs for "Assignments" (selected) and "Past". Under "Upcoming assignments", there is a "Show all 12" button.

**Step 3:** Start with the first video by clicking on it.  
**You must go in order.**  
Make sure title and video match

The screenshot shows the "Upcoming assignments" section. It has a "Hide" button. Below is a table of assignments:

Assignment	Start date	Due date
 ALGEBRA 1 Summer Learning Part 12 due Friday, August 28 at 11:59 pm 14 activities	June 15th	Aug. 28th
 ALGEBRA 1 Summer Learning Part 11 due Friday, August 28 at 11:59 pm 14 activities	June 15th	Aug. 28th
 ALGEBRA 1 Summer Learning Part 10 due Friday, August 28 at 11:59 pm 6 activities	June 15th	Aug. 28th

**Step 4:** Fill out each page of the summer learning journal  
**no work = no credit**

Identifying Arithmetic and Geometric Sequences ← Make sure the title and video match

The Blank space is used for notes and scrap paper

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