

# ALGEBRA 1 | ILLUSTRATIVE MATH COURSE SYLLABUS

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## WELCOME!

Welcome back to the PCTA math department and welcome to our new ninth graders! We are looking forward to working with students and their families as we begin yet another unprecedented school year. Google Classroom will be where all of your work and class announcements will be posted. The Remind app is also essential for staying in contact with us. See your individual teacher for the Classroom and Remind codes for your specific class period. If you have any questions or concerns, please reach out and we will be happy to help. We look forward to a great year!

## ACADEMIC EXPECTATIONS

Students are to submit their own assignments. Some of the submitted work is computerized and some is non computerized. All submitted work is subject to PPSD and PCTA policies. If a student needs additional time they must seek additional help and may also be scheduled for additional help in accordance with PCTA school policy. If absent, they are still responsible and accountable for the work. Attending school on time and participating in class every day is imperative to your success in this course.

## TEXTBOOK & SUPPLIES

This year, we are using a McGraw Hill curriculum called Illustrative Math (IM). Students will have access to the online platform which they can access through Google Classroom. Along with the online component, students will each be getting a student workbook. Additionally, we are asking that all students bring with them to class a pocket folder for their portfolios, a notebook, their Chromebooks, and a pencil or pen.

## GRADING

40% Summative Assessments: End-of-Unit Assessments (EUA) on IM

20% Formative Assessments: Mid-Unit Assessments (MUA) on IM

10% Independent Practice: Practice assignments on IM

30% Portfolio: Classwork, workbook pages, enrichment activities, etc.

## TENTATIVE ASSESSMENT SCHEDULE

Unit 1 EUA: 10/19

Unit 2 MUA: 11/22

Unit 4 MUA: 1/27

Unit 6 MUA: 3/17

Unit 7 MUA: 5/17

Unit 2 EUA: 12/21

Unit 4 EUA: 2/16

Unit 6 EUA: 4/4

Unit 7 EUA: 6/14

ALGEBRA 1 | ILLUSTRATIVE MATH  
COMMON CORE STANDARDS

QUARTER 1

UNIT 1  
One-Variable Statistics

**HSS-ID.A.1**

Represent data with plots on the real number line (dot plots, histograms, and box plots).

**HSS-ID.A.2**

Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

**HSS-ID.A.3**

Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

QUARTER 2

UNIT 2  
Linear Equations, Inequalities & Systems

**HSA-REI.B.3**

Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

**HSA-CED.A.2**

Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

**HSA-REI.D.10**

Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

**HSA-REI.A.**

Understand solving equations as a process of reasoning and explain the reasoning.

**HSA-REI.A.1**

Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

**HSA-SSE.A.1**

Interpret expressions that represent a quantity in terms of its context.

QUARTER 3

UNITS 4 & 6  
Functions & Introduction to Quadratics

**HSF-BF.A.1**

Write a function that describes a relationship between two quantities.

**HSF-BF.A.1.a**

Determine an explicit expression, a recursive process, or steps for calculation from a context.

**HSF-IF.A.1**

Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If  $f$  is a function and  $x$  is an element of its domain, then  $f(x)$  denotes the output of  $f$  corresponding to the input  $x$ . The graph of  $f$  is the graph of the equation  $y = f(x)$ .

**HSF-IF.A.2**

Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

**HSF-IF.B.4**

For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.

**HSF-IF.B.5**

Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function  $h(n)$  gives the number of person-hours it takes to assemble  $n$  engines in a factory, then the positive integers would be an appropriate domain for the function

**HSA-SSE.A**

Interpret the structure of expressions.

**HSF-IF.C.7**

Graph linear and quadratic functions and show intercepts, maxima, and minima.

## QUARTER 4

### UNIT 7 Quadratic Equations

**HSA-SSE.B.3**

Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression..

**HSA-REI.B.4**

Solve quadratic equations in one variable

**HSA-REI.B.4.b**

Solve quadratic equations by inspection (e.g., for  $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as  $a \pm bi$  for real numbers  $a$  and  $b$ .

**HSA-CED.A.1**

Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.