

**MATHEMATICS CURRICULUM****LEVEL K**

<b>AEBSD Outcome</b>	<b>AK. Perf. Stand.</b>	<b>Outcome Target</b>
<b>Ref. Tag</b>	<b>Ref. Tag</b>	
<b>Numeration</b>		
M.K.1	M5-7.N.1	Recognizes numbers to 20. Can count to 20.
M.K.2	M5-7.N.1	Shows that a number represents a quantity.
<b>Measurement</b>		
M.K.3	M5-7.M.1	Names days of the week.
M.K.4	M5-7.M.1	Names seasons.
M.K.5	M5-7.M.4	Tells time of day (i.e., morning, afternoon, evening).
<b>Estimation and Computation</b>		
M.K.6	M5-7.E.3	Adds 0's and 1's to a number.
M.K.7	M5-7.E.3	Adds doubles up to sum of ten.
M.K.8	M5-7.E.3	Adds numbers to 10 using manipulatives.
<b>Functions &amp; Relationships</b>		
M.K.9	M5-7.F.1	Continues a pattern using various attributes (i.e., shape, color, and size).
M.K.10	M5-7.F.1	Sorts and classifies.
<b>Geometry</b>		
M.K.11	M5-7.G.1	Identifies square, circle, triangle, rectangle.
<b>Statistics &amp; Probability</b>		
M.K.12	M5-7.S.2	Makes simple pictographs.

<b>Problem Solving</b>		
M.K.13	M5-7.P.2	Solves simple word problems in addition and subtraction up to 10 with manipulatives.
<b>Communications &amp; Reasoning</b>		
M.K.14	M5-7.CM.1	Uses the words "count", "number", "how many".
M.K.15	M5-7.CM.1	Demonstrates concepts of take-away, add to, and equal, using manipulatives.
<b>Connections</b>		
M.K.16	M5-7.CN.1	Listens to stories that have math concepts.

<b>MATHEMATICS CURRICULUM</b>		
<b>LEVEL I</b>		
<b>AEBSD Outcome</b>	<b>AK. Perf. Stand.</b>	<b>Outcome Target</b>
<b>Ref. Tag</b>	<b>Ref. Tag</b>	
<b>Numeration</b>		
M.1.1	M5-7.N.1	Recognizes numbers to 100. Can count to 100.
M.1.2	M5-7.CM.1	Compares numbers in terms of $<$ , $>$ , $=$ .
M.1.3	M5-7.E.3	Uses a number line to solve problems.
<b>Measurement</b>		
M.1.4	M5-7.M.1	Names months of the year.
M.1.5	M5-7.M.2	Uses non-standard units to measure and compare lengths and weights.
M.1.6	M5-7.M.4	Tells time to the hour.
M.1.7	M5-7.M.5	Identifies coins and their values.
<b>Estimation and Computation</b>		
M.1.8		Uses estimation to describe "about", "near", "close to", "how much" and "how many".
M.1.9	M5-7.E.3	Shows how to add and subtract basic addition and subtraction facts to 10.
M.1.10	M5-7.N.5	Names halves, thirds, fourths.
<b>Functions &amp; Relationships</b>		
M.1.11	M5-7.N.6	Continues a number pattern (i.e., skip counts by 2's, 5's, 10's).
M.1.12	M5-7.N.6	Names even and odd numbers.

<b>Geometry</b>		
M.1.13	M5-7.G.1	Tells about characteristics of geometric shapes.
M.1.14	M5-7.G.7	Draws line segments by drawing triangles and rectangles, including squares.
M.1.15	M5-7.G.3	Shows understanding of symmetry by cutting or folding patterns along a single line of symmetry.
M.1.16	M5-7.G.5	Tells difference between above and below, left and right, and middle.
<b>Statistics &amp; Probability</b>		
M.1.17	M5-7.S.4	Correctly uses 50-50 chance, un/likely.
<b>Problem Solving</b>		
M.1.18	M5-7.P.2	Draws pictures to represent problems.
<b>Communications &amp; Reasoning</b>		
M.1.19	M5-7.CM.1	Recognizes symbols +, -, =.
M.1.20	M5-7.CM.2	Demonstrates equal sharing of 20 objects.
<b>Connections</b>		
M.1.21	M5-7.CN.2	Applies mathematical skills and processes to other disciplines and everyday life. Uses 3 skills in level 1 in real life scenarios (i.e., pattern necklaces, student store).

<b>MATHEMATICS CURRICULUM</b>		
<b>LEVEL 2</b>		
<b>AEBSD Outcome</b>	<b>AK. Perf. Stand.</b>	<b>Outcome Target</b>
<b>Ref. Tag</b>	<b>Ref. Tag</b>	
<b>Numeration</b>		
M.2.1	M5-7.N.1	Reads, writes, models, orders, counts, and demonstrates 1 to 1 correspondence with whole numbers to 100.
M.2.2	M5-7.N.2	Identifies 1's, 10's, and 100's.
<b>Measurement</b>		
M.2.3	M5-7.M.1	Measures length, width and height, weight, and temperature.
M.2.4	M5-7.M.4	Tells time to the half hour and quarter hour.
M.2.5	M5-7.M.5	Adds and subtracts coins.
<b>Estimation and Computation</b>		
M.2.6	M5-7.E.1	Uses estimation to determine results of simple addition and subtraction.
M.2.7	M5-7.E.2	Recalls and uses the process of basic addition facts to 20.
M.2.8	M5-7.E.3	Identifies parts of a whole using halves, thirds, and fourths in various situations, using manipulatives.
M.2.9	M5-7.E.4	Models multiplication and division at a concrete level (repeated addition and equal sharing).
<b>Function &amp; Relationships</b>		
M.2.10	M5-7.N.6	Continues a number pattern by adding and subtracting.
<b>Geometry</b>		
M.2.11	M5-7.G.3	Creates examples of congruents.
M.2.12	M5-7.G.7	Identifies line segments.

<b>Statistics &amp; Probability</b>		
M.2.13	M5-7.S.1	Explains information from simple graphs.
M.2.14	M5-7.S.1	Makes simple graphs and tables (bar, line, pictographs). Use examples (i.e., dice, spinner colors, etc.)
M.2.15	M5-7.S.4	Uses manipulative (dice, spinner, etc.) to explain difference between chance and certainty.
	M5-7.S.5	Collects and organizes data using tally marks.
<b>Problem Solving</b>		
M.2.16	M5-7.CM.2	Uses practical problem solving strategies (i.e., guess and check, drawings, extending patterns).
<b>Communication &amp; Reasoning</b>		
M.2.17	M5-7.CM.1	Identifies and understands key words in simple problem solving (i.e., in all, how many more).
<b>Connections</b>		
M.2.18	M5-7.CN.2	Applies mathematical skills and processes to other disciplines and everyday life (i.e., records daily temperature and makes a graph to display data).

<b>MATHEMATICS CURRICULUM</b>		
<b>LEVEL 3</b>		
<b>AEBSD Outcome</b>	<b>AK. Perf. Stand.</b>	<b>Outcome Target</b>
<b>Ref. Tag</b>	<b>Ref. Tag</b>	
<b>Numeration</b>		
M.3.1	M8-10.N.2	Identifies place value in 4-digit number.
M.3.2	M5-7.N.7	Demonstrates the commutative ( $a+b=b+a$ ) and identity ( $3+0=3$ , $3 \times 1=3$ ) properties of addition and multiplication.
<b>Measurement</b>		
M.3.3	M5-7.M.1	Tells number of days in each month and writes proper date of the year.
M.3.4	M5-7.M.3	Estimates length and weight of objects and measures (in English and Metric) to check for reasonability.
M.3.5	M8-10.M.5	Tells time to the minute using analog and digital clocks identifying A.M. and P.M.
<b>Estimation and Computation</b>		
M.3.6	M5-7.E.3	Explains basic operation of calculator and uses it as a tool to solve simple problems.
M.3.7	M5-7.E.3	Finds missing addends to the sum of 100.
M.3.8	M8-10.E.1	Estimates groups of objects to the nearest 10's-100's then computes basic sums and differences.
M.3.9	M8-10.E.2	Solves basic multiplication and division facts to $10 \times 10$ .
M.3.10	M8-10.E.4	Multiplies and divides 2-digit numbers by 1-digit numbers.
M.3.11	M8-10.M.6	Demonstrates adding and subtracting money using bills and coins.
<b>Function &amp; Relationships</b>		
M.3.12	M5-7.N.6	Skip counts backward from 100 (2's, 5's, 10's).

<b>Geometry</b>		
M.3.13	M5-7.G.1&2	Draws and identifies basic geometric lines, angles, shapes (triangles, rectangles, circles), and solids (cubes, cylinders, spheres), and their relationships.
M.3.14	M5-7.G.4	Demonstrates conservation of area using drawings or manipulatives.
<b>Statistics &amp; Probability</b>		
M.3.15	M5-7.S.3	Collects, organizes and describes data using terms maximum and minimum.
<b>Problem Solving</b>		
M.3.16	M5-7.PS.2	Applies various problem-solving strategies to solve problems (i.e., drawing pictures, making models).
<b>Communication &amp; Reasoning</b>		
M.3.17	M5-7.CM.3	Communicates strategies and solutions by writing explanations.
<b>Connections</b>		
M.3.18	M8-10.CN.1&2	Applies mathematical skills and processes to other disciplines and everyday life (i.e., writes mathematical story problems to share with peers).

<b>MATHEMATICS CURRICULUM</b>		
<b>LEVEL 4</b>		
<b>AEBSD Outcome</b>	<b>AK. Perf. Stand.</b>	<b>Outcome Target</b>
<b>Ref. Tag</b>	<b>Ref. Tag</b>	
<b>Numeration</b>		
M.4.1	M8-10.N.1	Reads, writes, models, orders and counts negative numbers.
M.4.2	M8-10.N.2	Reads, writes, models, orders and counts positive numbers from 0 to 1,000,000.
M.4.3	M8-10.E.5	Interprets fractions and mixed numbers.
<b>Measurement</b>		
M.4.5	M8-10.M.1	Reads and uses measurement devices in English and Metric (ruler, thermometer, scale).
	M8-10.M.5	Finds elapsed time.
<b>Estimation and Computation</b>		
M.4.6	M8-10.E.1	Performs 4-digit addition and subtraction with place values, including rounding.
M.4.7	M8-10.E.2	Recalls and uses multiplication and division facts to 12 x 12.
M.4.8	M8-10.E.3	Writes and solves number sentences to represent problems involving +, -, x, /.
M.4.9	M8-10.E.4	Performs 2-digit X 2-digit multiplication and division, including estimating.
M.4.10	M8-10.E.5	Estimates the fractional part of the whole.
M.4.11	M8-10.M.6	Counts back change correctly from \$10.00.
M.4.12	M8-10.E.6	Estimates distance.
<b>Function and Relationships</b>		
M.4.13	M8-10.F.1&4	Uses words, lists, numbers and tables to find a pattern, explain its rule and extend the pattern to make predictions and solve problem.
M.4.14	M8-10.F.5	Solves a problem using a variable in an open sentence to express a relationship (i.e., $3+x=6$ ).

<b>Geometry</b>		
M.4.15	M8-10.G.2	Sorts, classifies, describes and draws geometric figures including circle, triangle, square, rectangle, oval, cube, pyramid, and sphere.
M.4.16	M8-10.G.4	Uses graph paper to estimate areas of irregular shapes.
M.4.17	M8-10.G.4	Calculates perimeter and area of rectangles and squares.
M.4.18	M8-10.G.7	Sketches and identifies segments, midpoints, intersections, parallel and perpendicular lines.
<b>Statistics &amp; Probability</b>		
M.4.19	M8-10.S.1	Interprets data from a variety of visual displays (i.e., tallies, tables, pictographs, line graphs, and bar graphs).
<b>Problem Solving</b>		
M.4.20	M8-10.P.2	Applies various problem-solving strategies to solve problems (tables, charts, lists).
<b>Communication &amp; Reasoning</b>		
M.4.21	M8-10.CM.3	Communicates strategies and solutions by writing explanations.
<b>Connections</b>		
M.4.22	M8-10.CN.1 & 2	Applies mathematical skills and processes to other disciplines and everyday life (i.e., uses data interpreted from graphs for social studies and/or science projects).

<b>MATHEMATICS CURRICULUM</b>		
<b>LEVEL 5</b>		
<b>AEBSD Outcome Ref. Tag</b>	<b>AK. Perf. Stand. Ref. Tag</b>	<b>Outcome Target</b>
<b>Numeration</b>		
M.5.1	M8-10CN.1	Identifies Roman Numerals to 100.
M.5.2	M8-10N.2	Compares and orders fractions and decimals using models or pictures, symbols, and words.
M.5.3	M8-10N.2	Uses, models, and identifies place value positions from .001 to 1,000,000.
<b>Measurement</b>		
M.5.4	M8-10M.1	Estimates volume, length, width, and temperature using metric and English measurement.
<b>Estimation and Computation</b>		
M.5.5	M8-10E.1	Rounds numbers to appropriate place value to estimate/solve a variety of problems.
M.5.6	M8-10E.3	Recognizes fractional forms of common decimals (i.e., $1/4=.25$ ).
M.5.7	M8-10E.3	Performs addition, subtraction, multiplication, and division of fractions with like denominators and decimal numbers (including money).
M.5.8	M8-10E.4	Performs 3 X 2 digit multiplication and division.
M.5.9	M8-10E.5	Changes improper fractions to whole or mixed numbers and identifies equivalent fractions.
M.5.10	M8-10E.5	Writes fractions in the lowest terms.
M.5.11	M8-10E.6	Interprets scales and scale models.
<b>Function &amp; Relationships</b>		
M.5.12	M8-10F.5	Writes and solves word problems that use equations containing a variable.

<b>Geometry</b>		
M.5.13	M8-10G.6	Locates and describes objects in terms of their position with and without compass directions.
M.5.14	M8-10G.1	Classifies angles as right, obtuse, acute, or straight.
M.5.15	M8-10G.5	Analyzes and models special transformations (slides, flips, and rotations).
<b>Statistics &amp; Probability</b>		
M.5.16	M8-10S.1	Uses data to construct charts, tables, and graphs.
M.5.17	M8-10S.2	Makes predictions based upon and explains data from charts, tables, and graphs.
<b>Problem Solving</b>		
M.5.18	M8-10P.2	Selects and applies appropriate strategies to solve two-step word problems involving fractions, decimals, and the four basic operations.
<b>Communication &amp; Reasoning</b>		
M.5.19	M8-10CM.1	Translates and successfully solves problems between everyday language and mathematical symbols.
<b>Connections</b>		
M.5.20	M8-10CN.2	Applies mathematical skills and processes to other disciplines and everyday life. (i.e., demonstrates ability for handling money, budgeting, shopping, and Interprets scale on a map.)

**MATHEMATICS CURRICULUM**

**LEVEL 6**

<b>AEBSD Outcome</b>	<b>AK. Perf. Stand.</b>	<b>Outcome Target</b>
<b>Ref. Tag</b>	<b>Ref. Tag</b>	
<b>Numeration</b>		
M.6.1	M11-14.N.1	Converts between standard and expanded notation (i.e., $647 = (6 \times 100) + (4 \times 10) + (7 \times 1)$ or $600 + 40 + 7$ )
M.6.2	M11-14.N.1	Describes and solves basic exponential problems (i.e., $4^2 = 4 \times 4 = 16$ ).
M.6.3	M11-14.N.5	Uses and explains prime and composite numbers.
M.6.4	M11-14.N.5	Uses and defends divisibility rules.
M.6.5	M11-14.N.5	Finds greatest common factor and lowest common multiple.
<b>Measurement</b>		
M.6.6	M11-14, M.2	Identifies and uses equivalent measurement (i.e., 60 min. = 1 hour, 12 in = 1 ft, metric 10mm = 1 centimeter).
M.6.7	M11-14.M.4	Determines volume and area of simple figures (i.e., for rectangle, triangle).
<b>Function &amp; Relationships</b>		
M.6.8	M11-14.F.5	Uses variables to express relationships and describe simple functions.
<b>Geometry</b>		
M.6.9	M11-14.G.1	Classifies and sketches polygons.
M.6.10	M11-14.G.3	Identifies and describes geometric figures that are congruent, similar, and/or symmetric.
M.6.11	M11-14G.6	Locates and places points on a coordinate plane system.

<b>Statistics &amp; Probability</b>		
M.6.12	M11-14.S.1	Identifies and describes characteristics of various graphs and charts.
M.6.13	M11-14.S.3	Calculates mean, median, mode, and range.
M.6.14	M11-14.S.6	Designs and experiments with given criteria, makes predictions, records results, and compares the predicted outcome with the actual results.
M.6.15	M11-14.E.4/6	Presents a set of probability data using percents, ratios, and/or fractions.
<b>Problem Solving</b>		
M.6.16	M11-14.S.2	Selects and applies problem solving strategies i.e., looks for a pattern, makes lists or tables, guesses and checks, draws a diagram, and works backwards applying reasoning.
<b>Communication &amp; Reasoning</b>		
M.6.17	M11-14.CM.1	Explains how to find the formula for the area of a triangle and rectangle.
M.6.18	M11-14.CM.2	Represents a problem numerically, graphically, and symbolically.
M.6.19	M11-14.CM.3	Uses appropriate vocabulary and symbols to explain and justify mathematical solutions.
M.6.20	M11-14.R.3	Defends conclusions with examples and applies to new situations.
<b>Estimation &amp; Computation</b>		
M.6.21	M11-14.C.M.3	Compares, contrasts, and describes in written form, mathematical processes and concepts.
M.6.22	M11-14.E.4	Performs basic operations (multiplication and division, addition and subtraction) with signed numbers, fractions of like and unlike denominators, mixed numbers, and improper fractions.
M.6.23	M11-14.E.4	Finds the percent of a number.
<b>Connections</b>		
M.6.24	M11-14.CN.1	Applies mathematical skills and processes to other disciplines and everyday life (i.e., demonstrates use of mathematical concepts such as probability and statistics in other content areas).

## AEBSD MATH SEQUENCE

### Elementary:

Everyday Math- K-6

### Middle School:

Grade 7- Transition Math

Grade 8- Transition Math

(Transition Math is a two year program)

Selected students may move to Algebra I as eighth graders

### Secondary:

#### OPTION I

Grades 9 & 10- Two Year Algebra I

Grade 9- Algebra I- 1/2

Grade 10- Algebra I- 2/2

(One credit awarded for each year)

Grade 11- Geometry, and/or HSGQE

Grade 12- Advanced Algebra, or  
HSGQE, or Consumer Math

#### OPTION II

Grade 9- Algebra I

(One credit awarded)

Grade 10- Geometry

Grade 11- Advanced Algebra  
or HSGQE

Grade 12- Advanced Math  
(Functions, Statistics, and  
Trigonometry), or Consumer  
Math, or HSGQE

HSGQE Math- Optional for grades 10-12, and required for students in grades 11-12 who have not passed the HSGQE. If a student does not pass the HSGQE in grade 11, the class must be taken again in grade 12. Students who take the class more than once will receive a maximum of one math credit, and then elective credits thereafter. When a student passes the HSGQE, they may exit this course at the next semester.

\*Consumer Math is an elective, which fulfills one of the three required courses.

\*\*Three credits of secondary math are required for graduation, and credits earned in any of the classes listed above fulfill that requirement.

<b>MATHEMATICS CURRICULUM</b>		
<b>LEVEL 7</b>		
<b><u>AEBSD Outcome Ref. Tag</u></b>	<b><u>AK. Perf. Stand. Ref. Tag</u></b>	<b><u>Outcome Target</u></b>
<b>Numeration</b>		
M.7.1	M11-14.N.1	Uses powers of 10 and applies Scientific Notation.
M.7.2	M11-14.N.1	Defines, writes, and orders with the Real Number System and its subsets.
M.7.3	M11-14.N.1	Names values from trillionths to hundred trillions.
M.7.4	M11-14.N.2	Evaluates expressions with exponents.
M.7.5	M11-14.N.5	Uses, explains, and defines the rules of divisibility, prime and composite numbers, multiples, and order of operations.
<b>Measurement</b>		
M.7.6	M11-14.M.1	Accurately measures length, weight, area, volume, and mass using appropriate English and metric tools.
<b>Function &amp; Relationships</b>		
M.7.7	M11-14.F.4	Recognizes and associates points with rectangular coordinates.
M.7.8	M11-14.F.5	Recognizes and evaluates simple equations by evaluating unknown variables and expressions (i.e., $2/3X + 3 = 4$ ).
<b>Geometry</b>		
M.7.9	M11-14.M.1/M.4	Estimates, measures, adds, and compares angles using a protractor.
M.7.10	M11-14.G.2	Identifies and describes a variety of 3D figures (i.e., cube, prism, cylinder, sphere, cone, and pyramid).
M.7.11	M11-14.G.4	Uses formulas to determine perimeter and area of various geometric shapes (i.e., trapezoid, parallelograms).

<b>Statistics &amp; Probability</b>		
M.7.12	M11-14.E.6	Sets up and solves probability problems.
M.7.13	M11-14.S.1/S.2	Interprets complex graphs and charts (i.e., frequency distribution, stem & leaf plots, histograms) with or without technology.
<b>Problem Solving</b>		
M.7.14	M11-14.P.3	Evaluates, interprets, and justifies solutions to problems.
<b>Communication &amp; Reasoning</b>		
M.7.15	M11-14.R.3	Decides when estimates are adequate and when exact answers are necessary.
M.7.16	M11-14.CM.3	Communicates and explains in a written paragraph, strategies used to solve multi-step word problems.
<b>Estimation and Computation</b>		
M.7.18	M11-14.E.4	Estimates products and quotients.
M.7.19	M11-14.E.5	Converts between fraction, decimal, and percent.
M.7.20	M11-14.E.6	Sets up and solves ratios and proportion problems using unit multipliers and conversions.
<b>Connections</b>		
M.7.21	M11-14.E.1	Compares, contrasts, and describes in written form, mathematical processes and concepts.
M.7.22	M11-14.E.2	Applies mathematical skills and processes to other disciplines and everyday life (i.e., calculates simple interest, understands the function of a checking account, reconciles a bank statement).

## **Grade 7 & 8- Transition Math**

### **Course Description:**

This course is designed to teach the use of fractions, mixed numbers, decimal numbers in all operations, and the procedures for solving word problems. The concepts of area, volume, percent, ratio, order of operations, and algebra are introduced and practiced. Successful completion of this course insures total preparation for Algebra I.

### **Materials and Resources:**

University of Chicago School of Mathematics: Transition Math Text  
Calculator

<b>MATHEMATICS CURRICULUM</b>		
<b>LEVEL 8</b>		
<b>AEBSD Outcome</b>	<b>AK. Perf. Stand.</b>	<b>Outcome Target</b>
<b>Ref. Tag</b>	<b>Ref. Tag</b>	
<b>Numeration</b>		
M.8.1	M11-14.N.2	Models counting in a different base system.
M.8.2	M11-14.N.3	Translates between equivalent representation of the same number (fractions, decimals, percents, exponents, and scientific notation).
M.8.1	M11-14.N.5	Uses, explains, and defines the rules of divisibility, prime and composite numbers, multiples, and order of operations.
M.8.2	M11-14.N.6	Uses commutative, identity, associative, and distributive properties with variables.
<b>Measurement</b>		
M.8.3	M11-14.M.4	Finds the perimeter and diameter of various circles.
M.8.4	M11-14.M.4	Finds the area and circumference of a circle.
M.8.5	M15-18.M.2	Estimates and converts measurements within the same system.
M.8.6	M11-14.M.4	Describes and applies the relationships between dimensions of geometric figures to solve problems using ratios and proportions as they relate to scale.
M.8.7	M11-14.M.5	Applies information about time zones and elapsed time to solve problems.
<b>Estimation &amp; Computation</b>		
M.8.8	M11-14.E.1	Applies and defends a variety of estimation strategies (i.e., rounding and truncating).
M.8.7	M11-14.E.2	Multiplies, divides, and performs the proper order of operations with signed numbers (with and without parentheses) and with scientific notation, and uses estimation to check for reasonable results.
M.8.8	M11-14.E.4	Solves complex percentage problems (i.e., 225% of 62 and 62 is what % of 130).

<b>Function &amp; Relationships</b>		
M.8.9	M11-14.1	Generalizes numeric and geometric patterns and sequences.
M.8.9	M11-14.2	Identifies and describes how a change in one variable in a function affects the remaining variables.
M.8.10		
M.8.10	M11-14.2	Identifies and predicts the graphs of linear lines (i.e., coordinate pairs, $y=mx+b$ , and graphs.)
M.8.11	m11-14	
M.8.9		Recognizes and evaluates functions (area of triangles, etc.).
M.8.10	M11-14.F.2/4/5	Translates word problems into symbolic expressions, equations, or inequalities and solves.
M.8.11	M11-14.4	Uses tables of ordered pairs, graphs, and linear equations to analyze patterns.
M.8.11	M11-14.CM.3	Identifies and predicts the graphs of linear lines (i.e., coordinate pairs, $y=mx+b$ , and graphs.)
<b>Geometry</b>		
M.8.12	M11-14.G.1	Classifies, compares, and sketches regular and irregular polygons.
M.8.13	M11-14.G,	Uses similarity and congruence to find missing angles or sides of figures.
M.8.13	M11-14.G4	Estimates and calculates volume and surface area of solids (i.e., cubes, prism, cylinder).
M.8.14	M11-14.G.5	Draws and describes the results of transformations (translations, rotations, reflections, and dilations).
M.8.15	M11-14.G.6	Uses coordinate geometry to represent and interpret relationships defined by equations and formulas including distance and midpoint.
M.8.15	M11-14.G.7	Performs basic geometry constructions (midpoint, angle bisector, parallel, and perpendicular lines).
<b>Statistics &amp; Probability</b>		
M.8.16	M11-14.S.1	Samples and records data systematically.
M.8.17	M11-14.S.4	Makes projections based on available data and evaluates whether inferences can be made from the data.
<b>Problem Solving</b>		

M.8.18	M11-14.P.3	Applies various problem solving strategies and evaluates, interprets, and justifies solutions to problems.
M.8.19	M11-14.P.3	Evaluates measurements for accuracy, precision and error; explains acceptable range of error.
<b>Communication &amp; Reasoning</b>		
M.8.20	M11-14.C.3	Defends conclusions with examples and applies to new situations.
M.8.20	M.11-14.R.3	Uses appropriate technology, math vocabulary, symbols, and notation to defend mathematical ideas, solutions, and methods to various audiences.
M.8.20	M.11-14.R.3	Uses counterexamples to disprove statements.
<b>Connections</b>		
M.8.21	M11-14.CN.2	Applies mathematical skills and processes to other disciplines and everyday life (i.e., calculates gross pay vs. net pay, and calculates end of year federal income tax using short form).

## **Grade 9- Algebra I**

### **Course Description:**

In this course, students will study how to generalize mathematical concepts using variables in place of numbers, and work with graphs and equations of linear functions. Finding solutions for ratio, percent, variation, and unit conversion problems will be explored. Basic algebraic concepts such as evaluation of expressions, adding like terms, factoring, simplification of radicals, and solving equations with one unknown, will be taught. Students will also work with graphs and equations of linear functions.

### **Materials and Resources:**

University of Chicago School of Mathematics: Algebra Text  
Calculator

### **Prerequisite:**

Pre-Algebra/Transition Math

<b>MATHEMATICS CURRICULUM</b>		
<b>LEVEL 9</b>		
<b>AEBSD Outcome Ref. Tag</b>	<b>AK. Perf. Stand. Ref. Tag</b>	<b>Outcome Target</b>
<b>Numeration</b>		
M.9.1	M15-18.N.1	Reads, writes, models, orders, and defines real numbers and subsets (i.e., integers, whole numbers, and rational/irrational numbers).
M.9.2	M15-18.N.4	Translates between equivalent representations of exponential expressions.
M.9.3	M15-18.N.5	Applies commutative, associative, and distributive properties with variables.
<b>Measurement</b>		
	M15-18.M.1	Evaluates measurements for accuracy, precision, and error with respect to measuring tools, methods, and computational process.
M.9.4	M15-18.M.2	Estimates and converts between different systems (metric and English).
	M15-18.M.3	Applies various measurement systems to describe situations and solve problems.
<b>Estimation &amp; Computation</b>		
M.9.5	M15-18.E.2	Adds and subtracts in various forms including scientific notation, powers, and roots.
M.9.6	M15-18.E.3	Multiplies and divides in various forms including scientific notation, powers, and roots.
M.9.7	M15-18.E.4	Selects, translates, and applies equivalent representations of numbers in various situations.
	M15-18.E.5	Uses ratios and proportions to model and solve fraction and percent problems with variables.
<b>Function &amp; Relationships</b>		
M.9.8	M15-18.F.1	Generalizes numeric and geometric patterns and sequences
M.9.9	M15-18.F.1	Identifies, graphs and compares graphs of linear, absolute value, quadratic, and exponential functions.

	M15-18.F.2	Creates and solves linear equations and inequalities.
	M15-18.F.2	Analyzes functions of one variable by investigating rates of change, intercepts, and zeroes.
M.9.10	M15-18.F.3	Represents real-world problems using polynomial equations, linear programming, algebraic functions and graphs.
M.9.11	M15-18.F.5	Performs addition, subtraction, multiplication and division of algebraic expressions and equations.
<b>Geometry</b>		
M.9.12	M15-18.G.1	Solves real world problems using the Pythagorean Theorem and distance formula.
M.9.13	M15-18.G.5	Graphs linear equations, determines slope, identifies the relationship between parallel and perpendicular lines using coordinate geometry (by hand or with technology).
<b>Statistics &amp; Probability</b>		
M.9.14	M15-18.S.1	Analyzes and draws inferences from a wide variety of data sources that summarize data.
	M15-18.S.1	Constructs, interprets, and analyzes information found in graphical displays.
M.9.15	M15-18.S.5	Calculates probability of independent and compound events.
<b>Problem Solving</b>		
	M15-18.P.1	Recognizes and formulates mathematical problems both from within and outside the field of mathematics.
M.9.16	M15-18.P.2	Applies multi-step, integrated mathematical problem solving strategies to solve problems.
	M15-18.P.3	Verifies the accuracy of a solution by using an alternative strategy to solve.
<b>Communication &amp; Reasoning</b>		
M.9.17	M15-18.CM.1	Uses appropriate technology, math vocabulary, symbols, and notation to defend mathematical ideas, solutions, and methods.
M.9.18	M15-18.R.2	Makes, tests, and proves mathematical conjectures.
M.9.19	M15-18.R.3	Defends conclusions with examples and applies to new situations.

Connections		
M.9.20	M15-18.CN.1	Applies mathematical skills and processes to global issues.
M.9.21	M15-18.CN.1	Applies algebraic concepts to solve real world problems such as net pay vs. gross pay, revenue, profit, and return on investment
M.9.22	M15-18.CN.1	Evaluates multi-step word problems involving equal and proportional groups, averages, and rates.

## **Grade 10- Geometry**

### **Course Description:**

This course builds a strong foundation in the concepts of geometry while continuing to develop skills in Algebra. Students will be able to connect geometry to algebra, statistics, and probability. Students will develop skills in logic and reasoning, and explore topics which include angles, parallel lines, symmetry and reflections, similarity and congruence, triangles, polygons, polyhedrons, circles, perimeters, areas, and volumes.

### **Materials and Resources:**

University of Chicago School of Mathematics: Geometry Text  
Scientific Calculator

### **Prerequisite:**

Algebra

<b>MATHEMATICS CURRICULUM</b>		
<b>Level 10</b>		
<b>AEBSD Outcome Ref. Tag</b>	<b>AK. Perf. Stand. Ref. Tag</b>	<b>Outcome Target</b>
<b>Measurement</b>		
M.10.1	M15-18.M.3	Uses area and volume to calculate construction costs.
M10.2	M15-18.M.4	Uses indirect methods, including Pythagorean Theorem and right triangle trigonometry to find missing dimensions.
<b>Estimation &amp; Computation</b>		
M.10.3	M15-18.E.1	Estimates solutions to check reasonableness.
<b>Function &amp; Relationships</b>		
M10.4	M15-18.F.1	Generalizes numeric and geometric patterns and sequences
M10.5	M15-18.F.2	Calculates perimeter and area in problems involving variables.
<b>Geometry</b>		
M.10.6	M15-18.G.1	Solves real world problems using the Pythagorean Theorem.
M.10.7	M15-18.G.1	Identifies and uses the properties of polygons, including interior and exterior angles.
M.10.8	M15-18.G.2	Draws and describes polyhedrons.
M.10.9	M15-18.G.3	Describes the relationship between the angles formed from parallel, perpendicular, and oblique lines used in geometric convergence.

M10.10	M15-18.G.3	Uses similarity and congruence to solve problems (prove two triangles are congruent).
M10.11	M15-18.G.4	Draws, describes, and verifies using algebra, the results of transformations (slides, rotations, reflections, and dilations).
M10.12	M15-18.G.5	Graphs linear equations, determines slope, identifies the relationship between parallel and perpendicular lines using coordinate geometry (by hand or with technology).
M10.13	M15-18.G.6	Constructs geometric models, transformations, and scale drawings using a variety of methods (paper folding, compass, straight edge, protractor or technology).
<b>Statistics &amp; Probability</b>		
M.10.14	M15-18.S.1	Reads and constructs various graphs (bar, histograms, scatter plots, circle graphs) using technology.
<b>Problem Solving</b>		
M.10.15	M15-18.P.1	Determines appropriate formula and applies it to solve real world problems.
M.10.16	M15-18.P.2	Applies multi-step integrated mathematical problem solving strategies to solve problems.
<b>Communication &amp; Reasoning</b>		
M.10.17	C15-18.CM.1,2	Uses appropriate technology, math vocabulary, symbols, and notation to defend mathematical ideas, solutions, and methods.
M.10.18	M15-18.CM.3	Defends conclusions with examples and applies to new problems.
M.10.19	M15-18.R.1	Recognizes and applies inductive and deductive reasoning.
M.10.20	M15-18.R.3	Uses methods of proofs including direct, indirect, and counterexamples to validate conjectures.
<b>Connections</b>		
M.10.21	M15-18.CN.1	Uses geometric ideas to solve problems in, and gain insights into, other disciplines such as art and architecture.

## **Grade 11- Algebra II**

### **Course Description:**

This is the second of a two-part course in beginning Algebra. Review and expansion of fundamental algebraic concepts, introduced in Algebra I, are stressed throughout the course. In addition, new topics such as the solving of systems of three linear equations, non-linear equations, right triangles, trigonometry, addition of vectors, quadratic formula, and algebra as it pertains to scientific experimentation are introduced.

### **Materials and Resources:**

University of Chicago School of Mathematics: Advanced Algebra Text  
Scientific Calculator

### **Prerequisite:**

Algebra I

<b>MATHEMATICS CURRICULUM</b>		
<b>LEVEL 11</b>		
<b><u>AEBSD Outcome</u></b>	<b><u>AK. Perf. Stand.</u></b>	<b><u>Outcome Target</u></b>
<b><u>Ref. Tag</u></b>	<b><u>Ref. Tag</u></b>	
<b>Numeration</b>		
M.11.1	M15-18.4	Translates between equivalent and representations of the same exponential expressions.
M.11.2		Reads, writes, defines, and performs mathematical operations on imaginary and complex numbers.
<b>Function &amp; Relationships</b>		
M.11.3	M15-18.F.1	Solves real-world problems involving constant rates, roots and exponents, vector and non-linear mathematical models.
M.11.4	M15-18.F.1	Identifies, graphs, and describes the graphs of basic families of functions including linear, absolute value, quadratic, and exponential using a graphing calculator.
M.11.5	M15-18.F.2	Solves quadratic equations by applying various methods including: factoring, taking square roots, completing the square, and the quadratic formula.
M.11.6	M15-18.F.2	Graphs and solves systems of linear inequalities.
M.11.7	M15-18.F.3	Solves systems of linear equations by applying various methods including: graphing, substitution, linear combination, and determinants.
M.11.8	M15-18.F.3	Represents real-world problems using polynomial equations, linear programming, algebraic functions, and graphs.
M.11.9	M15-18.F.3	Creates and solves complex systems of equations (3 variables, non-linear) algebraically and graphically using a graphing calculator.
M.11.10	M15-18.F.4	Uses right triangle trigonometry (sin, cos and tan) to determine length and angle measure.
M.11.11	M15-18.F.4	Uses Law of Sines and Law of Cosines to solve problems involving non-right triangles.
M.11.12	M15-18.F.4	Determines maximum and minimum points.
M.11.13	M15-18.F.4	Adds vectors using the parallelogram and the triangle method.

M.11.14	M15-18.F.4	Uses structures such as matrices, sequences, and iterations as tools to analyze patterns, expressions, and equations.
M.11.15	M15-18.F.5	Solves fractional equations and equations involving radicals.
M.11.16	M15-18.F.5	Adds, subtracts, multiplies, divides, and simplifies rational expressions involving variables.
M.11.17	M15-18.F.5	Adds, subtracts, multiplies, and divides polynomials
M.11.18		Solves quadratic equations by applying various methods, including factoring, taking square roots, and completing the square and the quadratic formula.
M.11.19		Determines maximum and minimum points of quadratic functions.
M.11.20		Represents real-world problems using polynomial equations, linear programming, algebraic functions, and graphs.
M11.21		Solves systems of linear equations by various methods including graphing, substitution, linear combination, and determinants.
M11.22		Solves fractional equations and equations containing radicals.
M11.23		Evaluates arithmetic and geometric series.
<b>Statistics &amp; Probability</b>		
M.11.24	M15-18.S.1	Identifies and analyzes linear and non-linear patterns in data using line graphs.
M.11.25	M15-18.S.2	Fits lines and curves to a set of points, and uses it to predict unknown values.
M.11.26	M15-18.S.3	Describes data, selecting measures of central tendencies (mean, median, mode) and distribution to convey information in the data.
M.11.27	M15-18.S.4	Analyzes validity of statistical conclusions and the use, misuse, and abuse of data caused by factors including inappropriate choices of measure of center and incorrect curve fitting.
M.11.28	M15-18.S.5	Analyzes data from multiple events and predicts theoretical probability for a simple situation.
M.11.29	M15-18.S.6	Calculates probability of independent and compound events.
M.11.30	M15-18.S.6	Designs, conducts, and communicates the results of multi-stage probability experiments.
<b>Problem Solving</b>		
M.11.31	M15-18.P.1	Recognizes and formulates mathematical problems both from within and outside the field of mathematics.
M.11.32	M15-18.P.2	Applies multi-step, integrated mathematical problem solving strategies to solve problems.
M.11.33	M15-18.P.3	Verifies the answer by using at least one alternative strategy.

<b>Communication &amp; Reasoning</b>		
M.11.34	M15-18.CM.1	Uses appropriate technology, math vocabulary, symbols, and notation to defend mathematical ideas, solutions, and methods.
M.11.35	M15-18.CM.3	Defends conclusions with examples and applies to new situations.
M.11.36	M15-18.R.2	Makes, tests, and proves mathematical conjectures.
<b>Connections</b>		
M.11.37	M15-18.CN.1	Uses error analysis as required on research projects.
M.11.38	M15-18.CN.1	Applies math skills and processes to other disciplines and to everyday life.
M.11.39	M15-18.CN.2	Uses formulas to compute investments using compound interest.

## **Grade 11-12: Consumer Math**

### **Course Description:**

This course teaches skills that a student will need to become a responsible consumer. Investing, purchasing, budgeting, retirement planning, and preparing taxes are included are skills that will be taught.

### **Materials and Resources:**

Teacher Generated Materials  
Scientific Calculator

### **Prerequisite:**

Algebra I

<b>MATHEMATICS CURRICULUM</b>		
<b>LEVEL 11 &amp; 12</b>		
<b>Consumer Math</b>		
<b>AEBSD Outcome</b>	<b>AK. Perf. Stand.</b>	<b>Outcome Target</b>
<b>Ref. Tag</b>	<b>Ref. Tag</b>	
<b>Connections</b>		
		<b>Income</b>
MPF.1	M15-18.2	Calculates income (gross vs. net): salary, commission, and calculates monthly deductions.
MPF.2	M15-18.2	*Prepares Federal Income Tax form.
MPF.3	M15-18.2	Calculates State Income Tax.
MPF.4	M15-18.2	Calculates Social Security.
		<b>Budget</b>
MPF.5	M15-18.2	Uses estimated monthly income to calculate monthly/yearly household expenses.
MPF.6	M15-18.2	Prepares monthly/yearly budget based upon projected income.
MPF.7	M15-18.2	Estimates different income levels based upon different careers.
MPF.8	M15-18.2	Prepares monthly/yearly budget based upon having a family including children.
		<b>Checking and Savings</b>
MPF.9	M15-18.2	*Uses a checking account including writing checks, making deposits, and maintaining a register.
MPF.10	M15-18.2	*Uses a savings account, including making deposits, withdrawals, and maintaining a passbook.
MPF.11	M15-18.2	Calculates interest, both simple and compound.
		<b>Purchasing</b>
MPF.12	M15-18.2	Reads the newspaper to gather information (i.e., stock quotes, classified ads, etc.)
MPF.13	M15-18.2	Calculates sales tax.
MPF.14	M15-18.2	*Uses a credit card.
MPF.15	M15-18.2	Calculates credit card finance charges, including previous balance, unpaid balance, and average daily balance.
		<b>Home Buying</b>
MPF.16	M15-18.2	*Purchases home and explains advantages/disadvantages of design, location, and features.
MPF.17	M15-18.2	Computes square footage of home.
MPF.18	M15-18.2	Calculates closing costs and cash required for purchase.
MPF.19	M15-18.2	Calculates real cost of home over lifetime of loan.
MPF.20	M15-18.2	Estimates yearly insurance and property tax costs.

MPF.21	M15-18.2	Calculates and compares cost of amortizing home loan over fifteen and thirty years.
		<b>Loans</b>
MPF.22	M15-18.2	Compares cost of single payment loan vs. installment loan.
MPF.23	M15-18.2	Calculates simple interest loans.
MPF.24	M15-18.2	Uses amortization tables and computes cost of purchasing an item over lifetime of loan.
MPF.25	M15-18.2	Determines APR of a loan.
		<b>Investments</b>
MPF.26	M15-18.2	Explains how the stock market works, and describes what the Dow Jones Average and NASDAQ represent.
MPF.27	M15-18.2	Explains what a bond is, and analyzes how bonds are rated.
MPF.28	M15-18.2	*Invests in an Individual Retirement Account, and estimates growth of money over lifetime.
MPF.29	M15-18.2	*Invests in three different mutual funds.
MPF.30	M15-18.2	*Invests Alaska Permanent Dividend Check, and estimates financial growth over lifetime.
MPF.31	M15-18.2	Uses the internet to study financial issues.
		<b>Transportation</b>
MPF.32	M15-18.2	*Purchases a new automobile, including financing, insurance, and extended warranty
MPF.33	M15-18.2	*Purchases a used automobile, including financing and insurance.
MPF.34	M15-18.2	Calculates insurance costs and defines insurance coverage terms (i.e., collision, comprehensive, liability, deductible, uninsured motorist, etc.).
		*Target activity will be simulated
		***This math class does not support the targets needed to prepare for the HSGQE

**Grade 12- Advanced Math**  
**Functions, Statistics, and Trigonometry**

**Course Description:**

This course will continue to build on advanced concepts in algebra. In preparation for more advanced pursuits in mathematics students will work with functions, statistics, and trigonometry. Functions is the study of corresponding mathematical relationships. Statistics is the branch of mathematics dealing with the collection, organization, analysis, and interpretation of information. The study of trigonometry deals with circular functions, and determining the relationship between the size and angles of triangles using these functions.

**Materials and Resources:**

University of Chicago School of Mathematics:  
Advanced Math, Functions, Statistics, and Trigonometry Text  
Scientific Calculator

**Prerequisite:**

Algebra II

<b>MATHEMATICS CURRICULUM</b>		
<b>LEVEL 12</b>		
<b>AEBSD Outcome</b>	<b>AK. Perf. Stand.</b>	<b>Outcome Target</b>
<b>Ref. Tag</b>	<b>Ref. Tag</b>	
<b>Numeration</b>		
M.12.1		Uses permutation and combinations as counting techniques.
M.12.2		Converts angle measures between degrees and radians, and finds the measure of co-terminal angles.
<b>Function &amp; Relationships</b>		
M.12.3	M15-18.F.2	Determines roots of higher-order polynomial equations.
M.12.4	M15-18.F.4	Makes up and writes simple algorithms for solving problems that take several steps and involve data matrices.
M.12.5	M15-18.F.4	Uses matrices and determinants to solve three dimensional linear systems.
M.12.6	M15-18.F.4	Evaluates and uses arithmetic and geometric series to make predictions.
M.12.7		Uses trigonometric identities to solve problems.
M.12.8		Solves problems involving conic sections.
M.12.9		Identifies, graphs, and describes the graphs of functions which include linear, absolute value, quadratic, logarithmic, exponential, and trigonometric with and without a calculator.
M.12.10		Compares the properties of functions including exponential, polynomial, rational, logarithmic, and periodic functions.
M.12.11		Combines functions arithmetically (add, subtract, multiply, and divide), and performs composition of functions.
M.12.12		Finds the inverse of a given function including functions where the domain must be restricted.
M.12.13		Demonstrates the understanding of the concept of a limit, and can solve limits using various techniques such as direct substitution, cancellation, and rationalizing.
<b>Geometry</b>		
M.12.14		Memorizes key points in the unit circle, and applies this to solve simple trigonometry problems from memory.
M.12.15		Uses right triangles to find values of the six basic trigonometric functions (sin, cos, tan, csc, sec, and cot).
M.12.16		Solves non-right triangles using the Law of Sines and the Law of Cosines.

<b>Statistics &amp; Probability</b>		
M.12.17	M15-18.S.3	Uses standard normal distribution, standard deviation, and variance to interpret data.
M.12.18	M15-18.S.3	Solves real-world problems involving probability through trees, formulas, permutations, and counting.
<b>Problem Solving</b>		
M.12.19	M15-18.P.2	Applies multi-step integrated mathematical problem solving strategies to solve problems.
<b>Communication &amp; Reasoning</b>		
M.12.20	M15-18.CM.3	Defends conclusions with examples and applies to new situations.
M.12.21	M15-18.R.3	Uses mathematical induction to construct geometric proofs.
<b>Connections</b>		
M.12.22	M15-18.CN.1	Applies concepts to surveying problems.
M.12.23	M15-18.CN.2	Analyzes the structure of standardized tests and practices taking them (SAT and ACT).

**Grade 10-12: HSGQE Math**  
**Functions, Statistics, and Trigonometry**

**Course Description:**

This course is primarily a review of the concepts taught in algebra and geometry in order to help prepare a student to pass the High School Graduation Qualifying Exam. Other topics will include basic mathematics, statistics, and probability. Test taking skills will also be emphasized.

**Materials and Resources:**

University of Chicago School of Mathematics:  
Advanced Math, Functions, Statistics, and Trigonometry Text  
Scientific Calculator

**Prerequisite:**

Algebra II

<b>MATHEMATICS CURRICULUM</b>		
<b>HSGQE Math</b>		
<b>AEBSD Outcome</b>	<b>AK. Perf. Stand.</b>	<b>Outcome Target</b>
<b>Ref. Tag</b>	<b>Ref. Tag</b>	
<b>Numeration</b>		
M.9.1	M15-18.N.1	Compares, simplifies, and orders fractions, decimals, percents, and square roots.
M.9.2	M15-18.N.1	Converts between fractions, decimals, and percents.
M.9.3	M15-18.N.5	Applies commutative, associative, and distributive properties with real numbers and variables.
<b>Measurement</b>		
M.9.4	M15-18.M.1	Finds measure of length, mass, capacity, area, volume, and temperature.
M.9.5	M15-18.M.1	Accurately measures and draws distances and angles using a ruler or protractor.
M.9.6	M15-18.M.2	Compares and orders data containing mixed units of measurement (hours and minutes, feet and inches, metric units).
M.9.7	M15-18.M.3	Solves problems involving rate, distance, time, and scale.
M.9.8	M15-18.M.4	Finds dimensions of geometric figures using formulas.
M.9.9	M15-18.M.4	Uses Pythagorean Theorem and right triangle trigonometry to solve problems.
<b>Estimation &amp; Computation</b>		
M.9.10	M15-18.E.1	Determines whether estimation is appropriate and if the estimation is greater than or less than the exact answer.
M.9.11	M15-18.E.1	Rounds numbers appropriately.
M.9.12	M15-18.E.2	Adds and subtracts in various forms including positive and negative numbers, fractions, decimals, percents, scientific notation, powers, and roots.
M.9.13	M15-18.E.3	Multiplies and divides in various forms including positive and negative numbers, fractions, decimals, percents, scientific notation, powers, and roots.

M.9.14	M15-18.E.4	Selects, translates, and applies equivalent representations of numbers in various situations.
M.9.15	M15-18.E.5	Calculates percent of increase and decrease.
	M15-18.E.5	Solves multi-step problems using ratios and proportions.
<b>Function &amp; Relationships</b>		
M.9.16	M15-18.F.1	Analyzes, extends, and applies patterns of numbers or shapes.
M.9.17	M15-18.F.1	Identifies, graphs, and compares graphs of linear, absolute value, quadratic, and exponential functions.
M.9.18	M15-18.F.3	Represents real-world problems using polynomial equations, linear programming, algebraic functions and graphs.
M.9.19	M15-18.F.3	Converts representation of data between graphs, tables, and equations.
M.9.20	M15-18.F.5	Performs addition, subtraction, multiplication, and division of algebraic expressions and equations.
<b>Geometry</b>		
M.9.21	M15-18.G.1	Solves real world problems using the Pythagorean Theorem.
M.9.22	M15-18.G.3	Uses similarity and congruence to solve problems (prove two triangles are congruent).
M.9.23	M15-18.G.5	Graphs linear equations, determines slope, identifies the relationship between parallel and perpendicular lines using coordinate geometry (by hand or with technology).
M.9.24	M15-18.G.6	Applies geometric formulas to a variety of situations.
M.9.25	M15-18.G.6	Constructs geometric models, transformation, and scale drawings using a variety of methods.
<b>Statistics &amp; Probability</b>		
M.9.26	M15-18.S.1	Reads and constructs various graphs.
M.9.27	M15-18.S.2	Determines the line of best fit, and uses to predict unknown data values.
M.9.28	M15-18.S.3	Uses measures of central tendency and frequency distributions to analyze data.
M.9.29	M15-18.S.4	Makes projections based on available data and evaluates whether inferences can be made from the data.
M.9.30	M15-18.S.5	Calculates probability of independent and compound events.

<b>Problem Solving</b>		
M.9.31	M15-18.P.1	Recognizes and formulates mathematical problems from within and outside the field of mathematics.
M.9.32	M15-18.P.2	Uses a variety of problem solving strategies, and multiple steps to solve problems.
M.9.33	M15-18.P.2	Determines appropriate formula and applies it to solve real world problems.
<b>Communication &amp; Reasoning</b>		
M.9.34	M15-18.CM.1	Uses appropriate technology, math vocabulary, symbols, and notation to defend mathematical ideas, solutions, and methods.
M.9.35	M15-18.R.1	Recognizes and applies inductive and deductive reasoning.
M.9.36	M15-18.R.2	Makes, tests, and proves mathematical conjectures.
M.9.37	M11-14.R.3	Defends conclusions with examples and applies to new situations.
<b>Connections</b>		
M.9.38	M15-18.CN.1	Applies mathematical skills and processes to global issues.
M.9.39		Practices and develops test taking skills and strategies.