

GEOMETRY

GM:1 Construct, measure, and understand the relationship and properties.

GM:2 Use the language and laws of logic to construct proofs and apply theorems, postulates and definitions.

GM:3 Understand classification, properties, congruence, similarities, and basic trigonometry of triangles.

GM:4 Understand classification, properties, congruence, and similarities of quadrilaterals.

GM:5 Understand the properties of polygons including congruence, similarity, and transformations.

GM:6 Learn how to use unit conversion.

GM:7 Know and understand the attributes and properties of circles.

GM:8 Apply the properties of common 3-D figures using volume and surface area.

The following high school elective courses are possible options for the required fourth year and/or senior math class.

Applied Math
Pre-Calculus
AP Calculus
AP Stats
Physics
Accounting
Personal Finance



The curriculum area represented in this brochure is aligned directly to Michigan's academic core curriculum; known as the High School Content Expectations. If you would like any additional information or have questions, contact your building principal or district office.

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*“Together We’re
A Powerful Team”*

**7th-12th GRADE
MATHEMATICS
CORE CURRICULUM
2011/2012**

7TH GRADE

NUMBERS & OPERATION

NB7:1 Understand and solve problems involving rates, ratios, and proportions.

NB7:2 Recognize irrational numbers (square root and cube root).

NB7:3 Compute with rational numbers.

ALGEBRA

AO7:1 Understand and apply directly proportional relationships and relate to linear relationships.

AO7:2 Understand and represent linear functions.

AO7:3 Understand and solve problems about inversely proportional relationships.

AO7:4 Apply basic properties of real numbers in algebraic contexts.

AO7:5 Combine algebraic expressions and solve equations.

GEOMETRY & MEASUREMENT

GM7:1 Draw and construct geometric objects.

GM7:2 Understand the concept of similar polygons, and solve related problems.

DATA & PROBABILITY

DP7:1 Represent data and interpret

DP7:2 Compute statistics about datasets.

PRE-ALGEBRA

PA:1 Understand real number concepts.

PA:2 Solve problems.

PA:3 Understand the concept of non-linear functions using basic examples.

PA:4 Understand and represent quadratic functions.

PA:5 Understand solutions and solve equations, simultaneous equations and linear inequalities.

PA:6 Understand and use the Pythagorean Theorem.

PA:7 Draw, explain and justify conclusions based on data.

PA:8 Understand probability concepts for simple and compound events.

PA:9 Solve problems about geometric figures.

PA:10 Understand concepts of volume and surface area, and apply formulas.

ALGEBRA I

ALG1:1 Apply the basic operations of rational numbers and correctly apply the order of operations.

ALG1:2 Classify numbers and identify and apply the properties associated with them. Apply these properties to numerical and algebraic expressions.

ALG1:3 Identify a relation as a function and represent this relationship in a table, graph and an equation. Identify the domain and range and independent and dependent variables.

ALG1:4 Write and solve equations.

ALG1:5 Write and solve inequalities.

ALG1:6 Identify, solve, write and apply direct, inverse and absolute value relationships.

ALG1:7 Graph and represent linear data in the 3 different symbolic forms (slope-intercept form, point-slope form, standard form).

ALG1:8 Identify and interpret the key features of each form and convert from one form to another.

ALG1:9 Identify and apply measures of central tendency. Construct a scatterplot and from this identify the correlation and calculate the line of best fit in order to make predictions.

ALG1:10 Finding solutions to two or more linear equations by graphing, by using substitutions and by using elimination.

ALG1:11 Evaluate expressions containing exponents using various exponential rules.

ALG1:12 Evaluate expressions containing exponents using various rules. Express exponential functions in a table, by a graph and with an equation. Relate exponential functions to growth or decay situations.

ALG1:13 Apply the basic operations to polynomials.

ALG1:14 Identify, interpret and apply key features of a quadratic function and its graph. Find solutions to Quadratic equations using graphical and square root methods.

ALG1:15 Solve quadratic equations using factoring methods and quadratic formula. Calculate and interpret value of discriminate.

ALG1:16 To be able to simplify radicals and radical expressions, to solve radical equations using the four basic operations.

ALGEBRA II

ALG2:1 Write, evaluate, and solve linear inequalities and equations.

ALG2:2 Represent function relationships by writing and graphing linear equations.

ALG2:3 Solve systems of equations using a variety of methods.

ALG2:4 Use properties to solve, analyze and visually represent quadratic functions.

ALG2:5 Apply properties and factor polynomials.

ALG2:6 Identify and apply properties of exponents and powers.

ALG2:7 Use and apply properties of probability.

ALG2:8 Write, solve, and graph exponential, and logarithmic functions.

ALG2:9 Identify properties, simplify, and solve rational functions.

ALG2:10 Model, graph, and identify conic sections.

ALG2:11 Identify and generate arithmetic and geometric sequences.

ALG2:12 Use probabilities distribution, measures of central tendencies, and variations to compare data.

ALG2:13 Identify and use definitions of trigonometric functions.