



KENOSHA UNIFIED SCHOOL DISTRICT NO. 1
INSTRUCTIONAL SERVICES

MOST ESSENTIAL BENCHMARKS: MATHEMATICS
NINTH THROUGH TWELFTH GRADE

ALGEBRA 1	GEOMETRY	ALGEBRA 2
STANDARD A: MATHEMATICAL PROCESS		
Representation, Reasoning, Problem Solving		
Communication, Connections		
<i>I can use reasoning and logic to formulate, analyze, and solve problems, and to test the reasonableness of my results.</i>	<i>I can use reasoning and logic to formulate, analyze, and solve problems, and to test the reasonableness of my results.</i>	<i>I can use reasoning and logic to formulate, analyze, and solve problems, and to test the reasonableness of my results.</i>
A-1.9	A-1.10	A-1.11
<i>I can clearly communicate mathematical concepts either orally or in written form.</i>	<i>I can clearly communicate mathematical concepts either orally or in written form.</i>	<i>I can clearly communicate mathematical concepts either orally or in written form.</i>
A-2.9	A-2.10	A-2.11
<i>I can use a computer or a calculator as a problem-solving tool.</i>	<i>I can use a computer or a calculator as a problem-solving tool.</i>	<i>I can use a computer or a calculator as a problem-solving tool.</i>
A-3.9	A-3.10	A-3.11
<i>I can read and interpret mathematical text and other mathematical representations (e.g., numbers, symbols, diagrams, models).</i>	<i>I can read and interpret mathematical text and other mathematical representations (e.g., numbers, symbols, diagrams, models).</i>	<i>I can read and interpret mathematical text and other mathematical representations (e.g., numbers, symbols, diagrams, models).</i>
A-4.9	A-4.10	A-4.11
STANDARD B: NUMBER OPERATIONS AND RELATIONSHIPS		
Number Concepts		
Number Computation		
<i>I can compare and order real numbers using appropriate symbols.</i>		
B-1.9		
<i>I can write and solve proportions, including percents.</i>	<i>I can analyze and solve problems using proportional reasoning.</i>	
B-2.9	B-1.10	
<i>I can select and use appropriate computational procedures.</i>	<i>I can select and use appropriate computational procedures.</i>	<i>I can select and use appropriate computational procedures and perform mathematical operations on complex numbers.</i>
B-3.9	B-2.10	B-1.11
<i>I can express square roots in simplest radical form.</i>		<i>I can express roots in simplest radical form.</i>
B-4.9		B-2.11
<i>I can perform operations on real numbers (e.g., absolute value, square roots, integer exponents, and reciprocals).</i>		<i>I can perform operations on real numbers, (e.g., roots, matrices, integer and rational exponents, logarithms, and absolute value).</i>
B-5.9		B-3.11
<i>I can find the least common multiple (LCM) and greatest common factor (GCF) of two or more algebraic expressions.</i>		
B-6.9		
<i>I can find the prime factorization of variable expressions, (e.g., $12ab^2=2^2 \cdot 3 \cdot a \cdot b \cdot b$).</i>		
B-7.9		

ALGEBRA 1	GEOMETRY	ALGEBRA 2
<i>I can determine the reasonableness of answers.</i> B-8.9	<i>I can determine the reasonableness of answers.</i> B-3.10	<i>I can determine the reasonableness of answers.</i> B-4.11
<i>I can use mental math.</i> B-9.9	<i>I can use mental math.</i> B-4.10	<i>I can use mental math.</i> B-5.11
STANDARD C: GEOMETRY		
Two- and Three-Dimensional Figures		
Spatial Relationships and Transformations		
Coordinate Systems		
	<i>I can identify, describe and analyze properties of two- and three-dimensional figures, relationships among figures, and relationships among their parts (e.g., parallel, perpendicular and congruent sides, diagonals, various types of angles and triangles, complementary and supplementary angles, and the sum of angles in a triangle and other polygons).</i> C-1.10	
	<i>I can present convincing geometric arguments (e.g., two-column proof, informal proof, and counterexamples).</i> C-2.10	
	<i>I can use proportional reasoning to solve congruence and similarity problems.</i> C-3.10	
	<i>I can sketch two- and three-dimensional figures accurately.</i> C-4.10	
	<i>I can use a coordinate plane and algebraic procedures to describe and characterize geometric properties and relationships (e.g., slope, parallelism, perpendicularity, distance formula, midpoint).</i> C-5.10	
	<i>I can identify transformations on the coordinate plane.</i> C-6.10	
	<i>I can transform objects on the coordinate plane.</i> C-7.10	
STANDARD D: MEASUREMENT		
Measurable Attributes/Units		
Direct Measurement		
Indirect Measurement		
<i>I can select and use appropriate measurement tools (e.g., ruler and protractor).</i> D-1.9	<i>I can select and use the appropriate measurement tools (e.g., ruler and protractor).</i> D-1.10	
	<i>I can measure with the appropriate degree of precision (1/16 inch and millimeter).</i> D-2.10	
	<i>I can determine the perimeter of a regular polygon and the circumference of a circle.</i> D-3.10	

ALGEBRA 1	GEOMETRY	ALGEBRA 2
	<i>I can determine the area of a regular polygon and the area of a circle.</i> D-4.10	
	<i>I can determine the surface area of three-dimensional figures (e.g., right prisms, right pyramids, spheres, cylinders, and cones).</i> D-5.10	
	<i>I can determine the volume of three-dimensional figures (e.g., prisms, pyramids, spheres, cylinders, and cones).</i> D-6.10	
	<i>I can find the measures of side lengths and angles in similar polygons.</i> D-7.10	
	<i>I can find the measures of angles, arcs, and segments as they relate to circles.</i> D-8.10	
	<i>I can find measurements indirectly (e.g., congruent and similar triangles).</i> D-9.10	
<i>I can use the Pythagorean Theorem to solve right triangle problems.</i> D-2.9	<i>I can use right-triangle trigonometry to solve problems (e.g., triangles, angle of elevation, and angle of depression).</i> D-10.10	
<i>I can use formulas in applications (e.g., simple and compound interest and $d=rt$).</i> D-3.9		
	<i>I can use the distance and midpoint formulas.</i> D-11.10	<i>I can apply the distance formula and the midpoint formula in real-life situations</i> D-1.11
	<i>I can use the relationships in special right triangles (45-45-90 and 30-60-90) to find missing lengths.</i> D-12.10	
STANDARD E: STATISTICS AND PROBABILITY		
Data Analysis and Statistics		
Probability		
	<i>I can express conditional statements using Venn Diagrams.</i> E-1.10	
<i>I can interpret the data that is displayed in a variety of ways (e.g., tables, bar graphs, line graphs, and scatter plots).</i> E-1.9		
<i>I can evaluate the validity of a statistical experiment.</i> E-2.9		<i>I can analyze and evaluate the conclusions of a statistical experiment.</i> E-1.11
<i>I can estimate and make predictions given a set of data (e.g., mean, median, mode, and line of best fit).</i> E-3.9		<i>I can calculate, make predictions, and analyze the effects of data on measures of central tendency and dispersion (e.g., outlier and range).</i> E-2.11

ALGEBRA 1	GEOMETRY	ALGEBRA 2
<i>I can determine the probability of compound events (e.g., dependent, independent, mutually exclusive, and percents).</i> E-4.9	<i>I can use lengths and areas to find geometric probabilities.</i> E-2.10	
<i>I can use combinations and permutations to determine the probability of an event.</i> E-5.9		<i>I can use combinations and permutations to determine the probability of an event.</i> E-3.11
STANDARD F: ALGEBRAIC RELATIONSHIPS		
Patterns, Relations, and Functions		
Expressions, Equations, Inequalities		
Properties		
<i>I can completely factor a polynomial (e.g., GCF, quadratic trinomials, and special products).</i> F-1.9		<i>I can completely factor a polynomial (e.g., sum/difference of two cubes.)</i> F-1.11
<i>I can add, subtract, and multiply polynomials.</i> F-2.9		
		<i>I can add, subtract, multiply, and divide rational expressions.</i> F-2.11
<i>I can write the equation of a nonvertical line in slope-intercept form given its graph.</i> F-3.9		<i>I can write the equation of a linear and quadratic function given its graph.</i> F-3.11
<i>I can write the equation of a vertical line given its graph.</i> F-4.9		
<i>I can graph a line using a table of values.</i> F-5.9		<i>I can graph a line.</i> F-4.11
<i>I can graph a line from the slope intercept form of an equation.</i> F-6.9		
<i>I can graph a line using x and y intercepts.</i> F-7.9		
<i>I can graph a line given a point and a slope.</i> F-8.9		
<i>I can graph horizontal and vertical lines.</i> F-9.9		<i>I can graph absolute value and quadratic functions.</i> F-5.11
<i>I can graph linear inequalities.</i> F-10.9		<i>I can graph linear and quadratic inequalities.</i> F-6.11
<i>I can determine the slope of a line given its graph.</i> F-11.9		<i>I can determine the slope of a line given its graph.</i> F-7.11

ALGEBRA 1	GEOMETRY	ALGEBRA 2
<i>I can determine the x and y intercepts of a line given its graph.</i> F-12.9		
<i>I can find the slope of a line given two points.</i> F-13.9		
<i>I can describe the steepness of slope.</i> F-14.9		
<i>I can use slope to identify parallel and perpendicular lines.</i> F-15.9		
<i>I can relate the concept of slope to rate of change.</i> F-16.9		
<i>I can determine the percent of change.</i> F-17.9		
<i>I can predict an outcome based on patterns and sequences.</i> F-18.9		<i>I can use direct and inverse variation in problem solving.</i> F-8.11
<i>I can solve linear equations.</i> F-19.9	<i>I can justify the steps to solve an equation using the properties of equality.</i> F-1.10	<i>I can solve all types of linear equations.</i> F-9.11
		<i>I can solve quadratic equations (e.g., by completing the square, by using the square-root method, and by using the quadratic formula).</i> F-10.11
<i>I can solve quadratic equations using factoring.</i> F-20.9		
<i>I can solve quadratic equations by finding square roots.</i> F-21.9		
<i>I can solve quadratic equations using the quadratic formula.</i> F-22.9		<i>I can solve rational and quadratic equations using the quadratic formula.</i> F-11.11
<i>I can solve linear inequalities.</i> F-23.9		<i>I can solve linear and quadratic inequalities.</i> F-12.11
<i>I can solve systems of linear equations by linear combinations, substitution, and graphing.</i> F-24.9		<i>I can solve two variable systems of equations (e.g., using Cramer's Rule, linear combinations, substitution, and graphing).</i> F-13.11
<i>I can solve systems of linear inequalities by graphing.</i> F-25.9		<i>I can solve systems of linear inequalities.</i> F-14.11
		<i>I can solve higher order polynomial equations.</i> F-15.11

ALGEBRA 1	GEOMETRY	ALGEBRA 2
		<i>I can solve logarithmic equations.</i> F-16.11
		<i>I can solve exponential and radical equations.</i> F-17.11
<i>I can use the substitution property to evaluate expressions.</i> F-26.9		
<i>I can use the distributive property to simplify expressions.</i> F-27.9		
<i>I can use the associative property to simplify expressions.</i> F-28.9		
<i>I can use the commutative property to simplify expressions.</i> F-29.9		
<i>I can use the properties of exponents to simplify expressions.</i> F-30.9		
<i>I can simplify multistep order of operations expressions containing variables.</i> F-31.9		
		<i>I can completely simplify rational expressions.</i> F-18.11
		<i>I can use the properties of logarithms to simplify expressions.</i> F-19.11
		<i>I can simplify radical expressions.</i> F-20.11
		<i>I can convert between radical notation and rational exponent notation.</i> F-21.11
		<i>I can identify the key features of conic sections.</i> F-22.11
		<i>I can identify the various types of conic sections from their equations and graphs.</i> F-23.11
		<i>I can write the equation of a conic section given its graph.</i> F-24.11
		<i>I can graph the conic sections.</i> F-25.11