

COMMON CURRICULUM  
Math Standards Model

2001  
GENERAL MATH

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			Strand		NE Standard		Objective	
MA	Grade							Book, Resources
MA	GM	12.1	Numeration/ Number Sense	12.1.1	Describe and compare the relationships between subsets of real numbers	<b>12.1.1 a GM</b>	Draw Venn diagrams with rational, irrational and real numbers	
MA	GM	12.1	Numeration/ Number Sense	12.1.1	Describe and compare the relationships between subsets of real numbers	<b>12.1.1 b GM</b>	Find intersection and union of two sets of numbers	
MA	GM	12.1	Numeration/ Number Sense	12.1.1	Describe and compare the relationships between subsets of real numbers	<b>12.1.1 c GM</b>	Given a number, identify which subsets it belongs to	
MA	GM	12.1	Numeration/ Number Sense	12.1.1	Describe and compare the relationships between subsets of real numbers	<b>12.1.1 d GM</b>	Justify why a number does not belong to a specific set	
MA	GM	12.1	Numeration/ Number Sense	12.1.2	Express equivalent forms of numbers using exponents, radicals, scientific notation, absolute values, fractions, decimals, and percents	<b>12.1.2 a GM</b>	Given radicals and absolute values, convert it to another form.	
MA	GM	12.2	Computa / Estimat	12.2.1	Solve theoretical and applied problems using numbers in equivalent forms, radicals, exponents, scientific notation, absolute values, fractions, decimals, and percents, ratios and proportions, order of operations, and properties of real numbers	<b>12.2.1 a GM</b>	Solve real life theoretical and applied problems involving the use of exponents, scientific notation, absolute values, ratios and proportions with and without the use of technology	
MA	GM	12.2	Computa / Estimat	12.2.2	Justify solutions to mathematical problems	<b>12.2.2 a GM</b>	Write an explanation based on the context of the problem stating why the solution is reasonable	
MA	GM	12.2	Computa / Estimat	12.2.2	Justify solutions to mathematical problems	<b>12.2.2 b GM</b>	Verify accuracy of answer with or without the use of technology.	
MA	GM	12.2	Computa / Estimat	12.2.3	Perform estimations and computations of real numbers mentally, with paper and pencil, and with technology	<b>12.2.3 a GM</b>	Without a calculator, estimate square roots of whole numbers	

MA	GM	12.2	Computa / Estimat	12.2.3	Perform estimations and computations of real numbers mentally, with paper and pencil, and with technology	<b>12.2.3</b> <b>b</b> <b>GM</b>	Estimate values of expressions involving roots and exponents	
MA	GM	12.2	Msr	12.3.1	Select and use appropriate measuring units, tools, and /or technology and explain the degree of accuracy and precision of measurements	<b>12.3.1</b> <b>a</b> <b>GM</b>	Select and use appropriate tools to get a specified accuracy of measurement.	
MA	GM	12.2	Msr	12.3.1	Select and use appropriate measuring units, tools, and /or technology and explain the degree of accuracy and precision of measurements	<b>12.3.1</b> <b>b</b> <b>GM</b>	Select and use appropriate measuring units.	
MA	GM	12.3	Msr	12.3.2	Convert between metric and standard units of measurement, given conversion factors	<b>12.3.2</b> <b>a</b> <b>GM</b>	Convert between English and metric measures for linear, area, and volume measures using conversion tables and factors.	
MA	GM	12.4	Geo	12.4.1	Calculate perimeter and area of two dimensional shapes, and surface area and volume of three-dimensional shapes	<b>12.4.1</b> <b>a</b> <b>GM</b>	Calculate perimeter and area for two-dimensional figures and volume and and surface area for three-dimensional figures.	
MA	GM	12.4	Geo	12.4.2	Create geometric models to describe the physical world	<b>12.4.2</b> <b>a</b> <b>GM</b>	Draw 2 and 3 dimensional models to describe the physical world.	
MA	GM	12.4	Geo	12.4.2	Create geometric models to describe the physical world	<b>12.4.2</b> <b>b</b> <b>GM</b>	Create scale models	
MA	GM	12.4	Geo	12.4.3	Evaluate characteristics and properties of two- and three-dimensional geometric shapes	<b>12.4.3</b> <b>a</b> <b>GM</b>	Classify and compare attributes of two- and three-dimensional shapes	
MA	GM	12.4	Geo	12.4.3	Evaluate characteristics and properties of two- and three-dimensional geometric shapes	<b>12.4.3</b> <b>b</b> <b>GM</b>	Classify shapes in terms of congruence and similarity and apply these relationships	
MA	GM	12.4	Geo	12.4.4	Apply coordinate geometry to locate objects and describe objects algebraically	<b>12.4.4</b> <b>a</b> <b>GM</b>	Graph a line and determine the slope.	

MA	GM	12.4	Geo	12.4.5	Apply right triangle trigonometry to find length and angle measures	<b>12.4.5 a GM</b>	Using the sine, cosine, or tangent ratios find the three sides of a right triangle and angles.	
MA	GM	12.4	Geo	12.4.6	Apply geometric properties to solve problems	<b>12.4.6 a GM</b>	Find missing angles and lengths of geometric shapes using geometric properties. (Properties may include but are not limited to similarity, parallel and line-transversal)	
MA	GM	12.4	Geo	12.4.7	Apply deductive reasoning to arrive at a conclusion	<b>12.4.7 a</b>	Identify the missing angle of a polygon	
MA	GM	12.5	Data	12.5.1	Select a sampling technique to gather data, analyze the resulting data and make inferences	<b>12.5.1 a GM</b>	Select a sampling technique to gather data, analyze the resulting data and make inferences.	
MA	GM	12.5	Data	12.5.2	Write equations and make predictions from sets of data	<b>12.5.2 a GM</b>	Given a graph of points, draw a line of best fit.	
MA	GM	12.5	Data	12.5.2	Write equations and make predictions from sets of data	<b>12.5.2 b GM</b>	Given a line of best fit, write the equation for the line in slope-intercept form.	
MA	GM	12.5	Data	12.5.2	Write equations and make predictions from sets of data	<b>12.5.2 c GM</b>	Given an equation in slope-intercept form, use a given x to calculate y.	
MA	GM	12.5	Data	12.5.3	Apply theoretical probability to represent problems and make decisions	<b>12.5.3 a GM</b>	Estimate the probability of the next event based on theoretical probabilities	
MA	GM	12.5	Data	12.5.4	Evaluate how transformations on data affect the measures of central tendency and variability	<b>12.5.4 a GM</b>	Given a set of data, calculate maximum, minimum and range.	
MA	GM	12.5	Data	12.5.4	Evaluate how transformations on data affect the measures of central tendency and variability	<b>12.5.4 b GM</b>	Given a set of data, identify outliers..	
MA	GM	12.5	Data	12.5.4	Evaluate how transformations on data affect the measures of central tendency and variability	<b>12.5.4 c GM</b>	Calculate mean, median, mode and range without outliers.	
MA	GM	12.5	Data	12.5.5	Interpret data represented by the normal distribution and formulate conclusions	<b>12.5.5 a GM</b>	Identify a normal or bell curve.	

MA	GM	12.5	Data	12.5.5	Interpret data represented by the normal distribution and formulate conclusions	12.5.5 b GM	Identify approximate percents for one and two standard deviations from the mean.	
MA	GM	12.5	Data	12.5.5	Interpret data represented by the normal distribution and formulate conclusions	12.5.5 c GM	Formulate conclusions based on a normal distribution.	
MA	GM	12.5	Data	12.5.5	Interpret data represented by the normal distribution and formulate conclusions	12.5.5 d GM	Describe how sample size is related to a normal curve.	
MA	GM	12.5	Data	12.5.6	Calculate probabilities of independent events	12.5.6 a GM	Calculate probabilities using the fundamental counting principle and permutations	
MA	GM	12.6	Alg	12.6.1	Graph and interpret algebraic relations and inequalities	12.6.1 a GM	Describe a graph by identifying intercepts, slopes, increasing, decreasing, parallel, and perpendicular	
MA	GM	12.6	Alg	12.6.1	Graph and interpret algebraic relations and inequalities	12.6.1 b GM	Describe the effect of changing coefficients of an equation	
MA	GM	12.6	Alg	12.6.2	Solve problems involving equations and inequalities	12.6.2 a GM	Use appropriate methods to solve linear equations and inequalities.	
MA	GM	12.6	Alg	12.6.3	Solve problems involving systems of two equations, and systems of two or more inequalities	12.6.3 a GM	Solve systems by graphing, substitution, or elimination.	
MA	GM	12.6	Alg	12.6.4	Solve problems using patterns and functions	12.6.4 a GM	Apply direct and indirect variations	
MA	GM	12.6	Alg	12.6.4	Solve problems using patterns and functions	12.6.4 b GM	Recognize the properties of families of functions	
MA	GM	12.6	Alg	12.6.4	Solve problems using patterns and functions	12.6.4 c GM	Recognize patterns of exponential growth and decay and their significance to real-life situations	
MA	GM	12.6	Alg	12.6.4	Solve problems using patterns and functions	12.6.4 d GM	Represent a problem in multiple formats: words, tables, graphs symbols	

ESU #13 SOAR  
COMMON CURRICULUM  
Math Standards Model

2001  
ALGEBRA

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			Strand		NE Standard		Objective	
MA	Grade							Book, Resources
MA	Alg	12.1	Numeration/ Number Sense	12.1.1	Describe and compare the relationships between subsets of real numbers	<b>12.1.1 a Alg</b>	Draw Venn diagrams with rational, irrational and real numbers	
MA	Alg	12.1	Numeration/ Number Sense	12.1.1	Describe and compare the relationships between subsets of real numbers	<b>12.1.1 b Alg</b>	Find intersection and union of two sets of numbers	
MA	Alg	12.1	Numeration/ Number Sense	12.1.1	Describe and compare the relationships between subsets of real numbers	<b>12.1.1 c Alg</b>	Given a number, identify which subsets it belongs to	
MA	Alg	12.1	Numeration/ Number Sense	12.1.1	Describe and compare the relationships between subsets of real numbers	<b>12.1.1 d Alg</b>	Justify why a number does not belong to a specific set	
MA	Alg	12.1	Numeration/ Number Sense	12.1.2	Express equivalent forms of numbers using exponents, radicals, scientific notation, absolute values, fractions, decimals, and percents	<b>12.1.2 a Alg</b>	Given radicals and absolute values, convert it to another form.	
	Alg	12.2	Computa / Estimat	12.2.1	Solve theoretical and applied problems using numbers in equivalent forms, radicals, exponents, scientific notation, absolute values, fractions, decimals, and percents, ratios and proportions, order of operations, and properties of real numbers	<b>12.2.1 a Alg</b>	Solve real life theoretical and applied problems involving the use of exponents, scientific notation, absolute values, ratios and proportions with and without the use of technology	
MA	Alg	12.2	Computa / Estimat	12.2.2	Justify solutions to mathematical problems	<b>12.2.2 a Alg</b>	Write an explanation based on the context of the problem stating why the solution is reasonable	
	Alg	12.2	Computa / Estimat	12.2.2	Justify solutions to mathematical problems	<b>12.2.2 b Alg</b>	Verify accuracy of answer with or without the use of technology.	

MA	Alg	12.2	Computa / Estimat	12.2.3	Perform estimations and computations of real numbers mentally, with paper and pencil, and with technology	<b>12.2.3 a Alg</b>	Without a calculator, estimate square roots of whole numbers	
MA	Alg	12.2	Computa / Estimat	12.2.3	Perform estimations and computations of real numbers mentally, with paper and pencil, and with technology	<b>12.2.3 b Alg</b>	Estimate values of expressions involving roots and exponents	
MA	Alg	12.3	Msr	12.3.2	Convert between metric and standard units of measurement, given conversion factors	<b>12.3.2 a Alg</b>	Convert between English and metric measures for linear, area, and volume measures using conversion table.	
MA	Alg	12.5	Data	12.5.1	Select a sampling technique to gather data, analyze the resulting data and make inferences	<b>12.5.1 b Alg</b>	Use technology to analyze data	
MA	Alg	12.5	Data	12.5.2	Write equations and make predictions from sets of data	<b>12.5.2 a Alg</b>	Relate the slope of a regression line to the rate of change for the data set	
MA	Alg	12.5	Data	12.5.4	Evaluate how transformations on data affect the measures of central tendency and variability	<b>12.5.4 a Alg</b>	Given a set of data, calculate maximum, minimum and range.	
MA	Alg	12.5	Data	12.5.4	Evaluate how transformations on data affect the measures of central tendency and variability	<b>12.5.4 b Alg</b>	Given a set of data, identify outliers..	
MA	Alg	12.5	Data	12.5.4	Evaluate how transformations on data affect the measures of central tendency and variability	<b>12.5.4 c Alg</b>	Calculate mean, median, mode and range without outliers.	
MA	Alg	12.5	Data	12.5.5	Interpret data represented by the normal distribution and formulate conclusions	<b>12.5.5 a Alg</b>	Identify a normal or bell curve.	
MA	Alg	12.5	Data	12.5.5	Interpret data represented by the normal distribution and formulate conclusions	<b>12.5.5 b Alg</b>	Identify approximate percents for one and two standard deviations from the mean.	
MA	Alg	12.5	Data	12.5.5	Interpret data represented by the normal distribution and formulate conclusions	<b>12.5.5 c Alg</b>	Formulate conclusions based on a normal distribution.	

MA	Alg	12.5	Data	12.5.5	Interpret data represented by the normal distribution and formulate conclusions	<b>12.5.5 d Alg</b>	Describe how sample size is related to a normal curve.	
MA	Alg	12.6	Alg	12.6.1	Graph and interpret algebraic relations and inequalities	<b>12.6.1 a Alg</b>	Describe a graph by identifying intercepts, slope, maximum, minimum, increasing, decreasing, parallel, and perpendicular	
MA	Alg	12.6	Alg	12.6.1	Graph and interpret algebraic relations and inequalities	<b>12.6.1 b Alg</b>	Use families of curves to describe the effect of changing coefficients of an equation	
MA	Alg	12.6	Alg	12.6.2	Solve problems involving equations and inequalities	<b>12.6.2 a Alg</b>	Use appropriate methods to solve linear and quadratic equations and inequalities.	
MA	Alg	12.6	Alg	12.6.3	Solve problems involving systems of two equations, and systems of two or more inequalities	<b>12.6.3 a Alg</b>	Solve systems by graphing, substitution, elimination or matrices	
MA	Alg	12.6	Alg	12.6.4	Solve problems using patterns and functions	<b>12.6.4 a Alg</b>	Apply direct and indirect variations	
MA	Alg	12.6	Alg	12.6.4	Solve problems using patterns and functions	<b>12.6.4 b Alg</b>	Recognize the properties of families of functions	
MA	Alg	12.6	Alg	12.6.4	Solve problems using patterns and functions	<b>12.6.4 c Alg</b>	Recognize patterns of exponential growth and decay and their significance to real-life situations	
MA	Alg	12.6	Alg	12.6.4	Solve problems using patterns and functions	<b>12.6.4 d Alg</b>	Represent a problem in multiple formats such as with words, tables, graphs, and symbols	

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ESU #13 SOAR  
COMMON CURRICULUM  
Math Standards Model

2001  
GEOMETRY

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			Strand		NE Standard		Objective	
MA	Grade							Book, Resources
MA	Geo	12.3	Msr	12.3.1	Select and use appropriate measuring units, tools, and /or technology and explain the degree of accuracy and precision of measurements	<b>12.3.1 a Geo</b>	Explain the accuracy of the measurement	
MA	Geo	12.3	Msr	12.3.1	Select and use appropriate measuring units, tools, and /or technology and explain the degree of accuracy and precision of measurements	<b>12.3.1 b Geo</b>	Explain the precision of the measurement tool	
MA	Geo	12.4	Geo	12.4.1	Calculate perimeter and area of two dimensional shapes, and surface area and volume of three-dimensional shapes	<b>12.4.1 a Geo</b>	Calculate perimeter and area for two-dimensional figures and volume and surface area for three-dimensional figures.	
MA	Geo	12.4	Geo	12.4.2	Create geometric models to describe the physical world	<b>12.4.2 b Geo</b>	Create and interpret scale models	
MA	Geo	12.4	Geo	12.4.3	Evaluate characteristics and properties of two- and three-dimensional geometric shapes	<b>12.4.3 c Geo</b>	Determine the effects of changing dimensions on perimeter, area, and volume	
MA	Geo	12.4	Geo	12.4.3	Evaluate characteristics and properties of two- and three-dimensional geometric shapes	<b>12.4.3 d Geo</b>	Investigate and deduce geometric properties using transformations such as translations, rotations, and reflections	
MA	Geo	12.4	Geo	12.4.4	Apply coordinate geometry to locate objects and describe objects algebraically	<b>12.4.4 b Geo</b>	Using coordinate geometry, identify the missing vertices of a polygon.	
MA	Geo	12.4	Geo	12.4.5	Apply right triangle trigonometry to find length and angle measures	<b>12.4.5 a Geo</b>	Apply the appropriate trigonometric ratio to be used (sine, cosine or tangent) to solve problems.	
MA	Geo	12.4	Geo	12.4.7	Apply deductive reasoning to arrive at a conclusion	<b>12.4.7 b Geo</b>	Use theorems, postulates, definitions and properties of geometrical shapes to substantiate a conclusion.	
MA	Geo	12.5	Data	12.5.3	Apply theoretical probability to represent problems and make decisions	<b>12.5.3 b Geo</b>	Use area to solve problems involving geometric probability.	

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ESU #13 SOAR  
COMMON CURRICULUM  
Math Standards Model

2001  
STATISTICS

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			Strand		NE Standard		Objective	
MA	Grade							Books, Resources
MA	Stat	12.5	Data	12.5.1	Select a sampling technique to gather data, analyze the resulting data and make inferences	12.5.1 d Stat	Evaluate accuracy of data set.	
MA	Stat	12.5	Data	12.5.1	Select a sampling technique to gather data, analyze the resulting data and make inferences	12.5.1 c Stat	Analyze various graphing techniques for best data display.	
MA	Stat	12.5	Data	12.5.1	Select a sampling technique to gather data, analyze the resulting data and make inferences	12.5.1 b Stat	Use technology to analyze data	
MA	Stat	12.5	Data	12.5.2	Write equations and make predictions from sets of data	12.5.2 d Stat	Use technology to generate regression equations.	
MA	Stat	12.5	Data	12.5.2	Write equations and make predictions from sets of data	12.5.2 e Stat	Determine the validity of predictions made from regression equations	
MA	Stat	12.5	Data	12.5.3	Apply theoretical probability to represent problems and make decisions	12.5.3 c Stat	Explain the likelihood of the next event based on theoretical probabilities	
MA	Stat	12.5	Data	12.5.4	Evaluate how transformations on data affect the measures of central tendency and variability	12.5.4 d Stat	Construct and analyze box-and-whisker graphs, and percentile rankings.	
MA	Stat	12.5	Data	12.5.5	Interpret data represented by the normal distribution and formulate conclusions	12.5.5 e Stat	Analyze skewed data, and in-depth analysis of the normal distribution.	
MA	Stat	12.5	Data	12.5.6	Calculate probabilities of independent events	12.5.6 a Stat	Calculate probability of events. (dependent, permutations vs combinations, bays )	