



Alignment Document  
State of Missouri and Aventa Learning Pre-Algebra

**Pre-Algebra**  
2005-2007 Benchmark Blueprint

Stand	Standards	Benchmarks	Unit Name	Course Topic Description
N Number and Operations	N.1 Understand numbers, ways of representing numbers, relationships among numbers and number systems	N.1.A compare and order all rational numbers including percents, and find their approximate location on a number line	Basics Decimals and Percents	Integer Math Percents
		N.1.B use fractions, decimals and percents to solve problems	Decimals and Percents Fractions	Decimals Fraction Basics
		N.1.C recognize equivalent representations for the same number and generate them by decomposing and composing numbers, including scientific notation	Basics Basics Number Basics	Exponents Integer Math Number Properties
		N.1.D Missouri has no content for this Expectation at this grade		
	N.2 Understand meanings of operations and how they relate to one another	N.2.A Missouri has no content for this Expectation at this grade		
		N.2.B Missouri has no content for this Expectation at this grade		
		N.2.C apply properties of operations to all rational numbers including order of operations and inverse operations	Number Basics Basics	Number Properties Negative Exponents
		N.2.D Missouri has no content for this Expectation at this grade		
	N.3 Compute fluently and make	N.3.A Missouri has no content for this		

	reasonable estimates	Expectation at this grade		
		<b>N.3.B</b> Missouri has no content for this Expectation at this grade		
		<b>N.3.C</b> Missouri has no content for this Expectation at this grade		
		<b>N.3.D</b> Missouri has no content for this Expectation at this grade		
		<b>N.3.E</b> Missouri has no content for this Expectation at this grade		
<b>A</b> Algebraic Relationships	<b>A.1</b> Understand patterns, relations and functions	<b>A.1.A</b> Missouri has no content for this Expectation at this grade		
		<b>A.1.B</b> generalize patterns represented graphically or numerically with words or symbolic rules, using explicit notation	Equations	Solving Simple Equations
		<b>A.1.C</b> compare and contrast various forms of representations of patterns	Equations	Graph Lines
		<b>A.1.D</b> identify functions as linear or nonlinear from tables, graphs or equations	Equations	Linear Equations
			Equations	Solving Simple Equations
	<b>A.1.E</b> Missouri has no content for this Expectation at this grade	Equations	Graph Lines	
	<b>A.2</b> Represent and analyze mathematical situations and structures using algebraic symbols	<b>A.2.A</b> use symbolic algebra to represent and solve problems that involve linear relationships	Equations	Linear Equations
		<b>A.2.B</b> use properties to generate equivalent forms for simple algebraic expressions that include all rationals	Equations	Linear Equations
			Equations	Solving Simple Equations
		<b>A.2.C</b> Missouri has no content for this Expectation at this grade		
<b>A.2.D</b> Missouri has no content for this Expectation at this grade				
<b>A.3</b> Use mathematical models to represent and understand	<b>A.3.A</b> model and solve problems, using multiple representations such as graphs,	Equations	Linear Equations	

	quantitative relationships	tables, and linear equations			
	<b>A.4</b> Analyze change in various contexts	<b>A.4.A</b> analyze the nature of changes (including slope and intercepts) in quantities in linear relationships	Equations	Linear Equations	
<b>G</b> Geometric and Spatial Relationships	<b>G.1</b> Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships	<b>G.1.A</b> describe, classify and generalize relationships between and among types of a) 2-dimensional objects and b) 3-dimensional objects using their defining properties including Pythagorean Theorem	Factoring and Geometric Formulas	Geometric Formulas	
		<b>G.1.B</b> Missouri has no content for this Expectation at this grade			
		<b>G.1.C</b> Missouri has no content for this Expectation at this grade			
	<b>G.2</b> Specify locations and describe spatial relationships using coordinate geometry and other representational systems	<b>G.2.A</b> use coordinate geometry to analyze properties of right triangles and quadrilaterals (including the use of the Pythagorean Theorem)	Factoring and Geometric Formulas	Geometric Formulas	
			Factoring and Geometric Formulas	Pythagorean Theorem	
	<b>G.3</b> Apply transformations and use symmetry to analyze mathematical situations	<b>G.3.A</b> reposition shapes under formal transformations such as reflection, rotation and translation	Geometric Concepts	Transformations, reflection, rotation and translation	
			<b>G.3.B</b> describe the relationship between the scale factor and the area of the image using a dilation (stretching/ shrinking)	Factoring and Geometric Formulas	Geometric Formulas
				Geometric Concepts	Dilation
	<b>G.3.C</b> identify the number of rotational symmetries of regular polygons	<b>G.3.A</b> reposition shapes under formal transformations such as reflection, rotation and translation	Factoring and Geometric Formulas	Geometric Formulas	
			<b>G.4.A</b> create isometric drawings from a given net plan	Factoring and Geometric Formulas	Geometric Formulas
Geometric Concepts				Overview	
<b>G.4</b> Use visualization, spatial reasoning and geometric modeling to solve problems	<b>G.4.B</b> draw or use visual models to represent and solve problems	Factoring and Geometric Formulas	Geometric Formulas		
		Geometric Concepts	Overview		

<b>M</b> Measurement	<b>M.1</b> Understand measurable attributes of objects and the units, systems and processes of measurement	<b>M.1.A</b> Missouri has no content for this Expectation at this grade		
		<b>M.1.B</b> Missouri has no content for this Expectation at this grade		
		<b>M.1.C</b> Missouri has no content for this Expectation at this grade		
		<b>M.1.D</b> Missouri has no content for this Expectation at this grade		
	<b>M.2</b> Apply appropriate techniques, tools and formulas to determine measurements	<b>M.2.A</b> Missouri has no content for this Expectation at this grade		
		<b>M.2.B</b> solve problems of angle measure, including those involving triangles and parallel lines cut by a transversal	Factoring and Geometric Formulas Geometric Concepts	Geometric Formulas Overview
		<b>M.2.C</b> Missouri has no content for this Expectation at this grade		
		<b>M.2.D</b> analyze precision and accuracy in measurement situations and determine number of significant digits	Number Basics	Significant Digits
<b>M.2.E</b> Missouri has no content for this Expectation at this grade				
<b>D</b> Data and Probability	<b>D.1</b> Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them	<b>D.1.A</b> Missouri has no content for this Expectation at this grade		
		<b>D.1.B</b> Missouri has no content for this Expectation at this grade		
		<b>D.1.C</b> select, create and use appropriate graphical representation of data (including scatter plots) and box plots (box and whiskers)	Probability and Data Analysis Project	Data Analysis Project
	<b>D.2</b> Select and use appropriate statistical methods to analyze data	<b>D.2.A</b> find, use and interpret measures of center, outliers and spread, including range and interquartile range	Probability and Data Analysis Project Probability and Data Analysis Project	Data Analysis Project Probability
		<b>D.2.B</b> compare different representations of the same data and evaluate how well	Probability and Data Analysis Project	Data Analysis Project



		each representation shows important aspects of the data		
		<b>D.2.C</b> Missouri has no content for this Expectation at this grade		
	<b>D.3</b> Develop and evaluate inferences and predictions that are based on data	<b>D.3.A</b> make conjectures about possible relationships between 2 characteristics of a sample on the basis of scatter plots of the data and approximate lines of fit	Probability and Data Analysis Project	Data Analysis Project
		<b>D.3.B</b> Missouri has no content for this Expectation at this grade		
	<b>D.4</b> Understand and apply basic concepts of probability	<b>D.4.A</b> Missouri has no content for this Expectation at this grade		
		<b>D.4.B</b> Missouri has no content for this Expectation at this grade		