



# Math Teachers Press, Inc.

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## Arizona Mathematics Standards Correlated to *Moving with Math Extensions Grade 6*

		Student Book	Skill Builders
<b>STRAND 1: NUMBER AND OPERATIONS</b>			
<b>Concept 1: Number Sense</b>			
<b>PO.1</b>	Convert between expressions for positive rational numbers, including fractions, decimals, percents, and ratios.	40	30-1
<b>PO.2</b>	Use prime factorization to		
	<ul style="list-style-type: none"> <li>• express a whole number as a product of its prime factors and</li> <li>• determine the greatest common factor and least common multiple of two whole numbers.</li> </ul>	24	
<b>PO.3</b>	Demonstrate an understanding of fractions as rates, division of whole numbers, parts of a whole, part of a set, and locations on a real number line.	20, 35	11-1
<b>PO.4</b>	Compare and order integers; and positive fractions, decimals, and percents.	25, 38	13-1, 24-1
<b>PO.5</b>	Express that a number's distance from zero on the number line is its absolute value.		
<b>PO.6</b>	Express the inverse relationships between exponents and roots for perfect squares and cubes.		
<b>Concept 2: Numerical Operations</b>			
<b>PO.1</b>	Apply and interpret the concepts of addition and subtraction with integers using models.		
<b>PO.2</b>	Multiply multi-digit decimals through thousandths.	44, 45	27-2
<b>PO.3</b>	Divide multi-digit whole numbers and decimals by decimal divisors with and without remainders.	46, 47	28-2
<b>PO.4</b>	Multiply and divide fractions.	32-34	19-1, 19-2, 20-1
<b>PO.5</b>	Provide a mathematical argument to explain operations with two or more fractions or decimals.	27, 34, 45	
<b>PO.6</b>	Apply the commutative, associative, distributive, and identity properties to evaluate numerical expressions involving whole numbers.	4	5-1, 5-2
<b>PO.7</b>	Simplify numerical expressions (involving fractions, decimals, and exponents) using the order of operations with or without grouping symbols.		
<b>Concept 3: Estimation</b>			

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<b>PO.1</b>	Use benchmarks as meaningful points of comparison for rational numbers.		
<b>PO.2</b>	Make estimates appropriate to a given situation and verify the reasonableness of the results.	7, 8, 14, 15, 21	49-1, 49-2, 50-1, 50-2
<b>STRAND 2: DATA ANALYSIS, PROBABILITY, AND DISCRETE MATHEMATICS</b>			
<b>Concept 1: Data Analysis (Statistics)</b>			
<b>PO.1</b>	Solve problems by selecting, constructing, and interpreting displays of data, including histograms, and stem-and-leaf plots.	62, 63	
<b>PO.2</b>	Formulate and answer questions by interpreting, analyzing, and drawing inferences from displays of data including histograms and stem-and-leaf plots.	62, 63	48-1
<b>PO.3</b>	Use extreme values, mean, median, mode, and range to analyze and describe the distribution of a given data set.	18, 19	46-1, 46-2
<b>PO.4</b>	Compare two or more sets of data by identifying trends.		
<b>Concept 2: Probability</b>			
<b>PO.1</b>	Use data collected from multiple trials of a single event to form a conjecture about the theoretical probability.		47-2
<b>PO.2</b>	Use theoretical probability to		
	• predict experimental outcomes,		47-2
	• compare the outcome of the experiment to the prediction, and		47-2
	• replicate the experiment and compare results.		47-2
<b>PO.3</b>	Determine all possible outcomes (sample space) of a given situation using a systematic approach.		
<b>Concept 3: Systematic Listing and Counting</b>			
<b>PO.1</b>	Build and explore tree diagrams where items repeat.		
<b>PO.2</b>	Explore counting problems with Venn diagrams using three attributes.		
<b>Concept 4: Vertex-Edge Graphs</b>			
<b>PO.1</b>	Investigate 4 properties of vertex-edge graphs		
	• Hamilton paths,		
	• Hamilton circuits,		
	• shortest route.		
<b>PO.2</b>	Solve problems related to Hamilton paths and circuits.		
<b>STRAND 3: PATTERNS, ALGEBRA, AND FUNCTIONS</b>			
<b>Concept 1: Patterns</b>			
<b>PO.1</b>	Recognize, describe, create, and analyze a numerical sequence involving fractions and decimals using all four basic operations.		

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	<b>Concept 2: Functions and Relationships</b>		
<b>PO.1</b>	Recognize and describe a relationship between two quantities, given by a chart, table or graph, using words and expressions.	61	
	<b>Concept 3: Algebraic Representations</b>		
<b>PO.1</b>	Use an algebraic expression to represent a quantity in a given context.		45-5
<b>PO.2</b>	Create and solve two-step equations that can be solved using inverse properties with fractions and decimals.		
<b>PO.3</b>	Translate both ways between a verbal description and an algebraic expression or equation.		
<b>PO.4</b>	Evaluate an expression involving the four basic operations by substituting given fractions and decimals for the variable.		
	<b>Concept 4: Analysis of Change</b>		
<b>PO.1</b>	Determine a pattern to predict missing values on a line graph or scatterplot.		
	<b>STRAND 4: GEOMETRY AND MEASUREMENT</b>		
	<b>Concept 1: Geometric Properties</b>		
<b>PO.1</b>	Define $\pi$ (pi) as the ratio between the circumference and diameter of a circle and explain the relationship among the diameter, radius, and circumference.		
<b>PO.2</b>	Solve problems using properties of supplementary, complementary, and vertical angles.		
	<b>Concept 2: Transformation of Shapes</b>		
<b>PO.1</b>	Identify a simple translation or reflection and model its effect on a 2-dimensional figure on a coordinate plane using all four quadrants.		
<b>PO.2</b>	Draw a reflection of a polygon in the coordinate plane using a horizontal or vertical line of reflection.		
	<b>Concept 3: Coordinate Geometry</b>		
<b>PO.1</b>	Graph ordered pairs in any quadrant of the coordinate plane.	61	
<b>PO.2</b>	State the missing coordinate of a given figure on the coordinate plane using geometric properties to justify the solution.		
	<b>Concept 4: Measurement</b>		
<b>PO.1</b>	Determine the appropriate unit of measure for a given context and the appropriate tool to measure to the needed precision (including length, capacity, angles, time, and mass).	51, 55, 59	36-2, 37-1
<b>PO.2</b>	Solve problems involving conversion within the U.S. Customary and within the metric system.	60	41-1, 42-1
<b>PO.3</b>	Estimate the measure of objects using a scale drawing or map.		

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<b>PO.4</b>	Solve problems involving the area of simple polygons using formulas for rectangles or triangles.		
<b>PO.5</b>	Solve problems involving area and perimeter of regular and irregular polygons.	56, 57	38-1, 38-2
<b>PO.6</b>	Describe the relationship between the volume of a figure and the area of its base.		
	<b>STRAND 5: STRUCTURE AND LOGIC</b>		
	<b>Concept 1: Algorithms and Algorithmic Thinking</b>		
<b>PO.1</b>	Analyze algorithms for multiplying and dividing fractions and decimals using the associative, commutative, and distributive properties.	33, 45	
<b>PO.2</b>	Create and justify an algorithm to determine the area of a given compound figure using parallelograms and triangles.		
	<b>Concept 2: Logic, Reasoning, Problem Solving, and Proof</b>		
<b>PO.1</b>	Analyze a problem situation to determine the question(s) to be answered.	16, 17	45-2
<b>PO.2</b>	Identify relevant, missing, and extraneous information related to the solution to a problem.	16, 17	45-2
<b>PO.3</b>	Analyze and compare mathematical strategies for efficient problem solving; select and use one or more strategies to solve a problem.	17	45-1, 45-2
<b>PO.4</b>	Apply a previously used problem solving strategy in a new context.	45	
<b>PO.5</b>	Represent a problem situation using multiple representations, describe the process used to solve the problem, and verify the reasonableness of the solution.	17	45-2
<b>PO.6</b>	communicate the answer(s) to the question(s) in a problem using appropriate representations, including symbols and informal and formal mathematical language.	22	
<b>PO.7</b>	Isolate and organize mathematical information taken from symbols and informal and formal mathematical language.	61	
<b>PO.8</b>	Make and test conjectures based on information collected from explorations and experiments.	9, 10	
<b>PO.9</b>	Solve simple logic problems, including conditional statements, and justify solution methods and reasoning.		