



# Math Teachers Press, Inc.

4850 Park Glen Road, Minneapolis, MN 55416  
 phone (800) 852-2435 fax (952) 546-7502

## Missouri Mathematics Learning Goals Correlated to Moving with Math Foundations for Algebra Middle/High (MH) Grade 7

	MH1 Number Sense, Reasoning & Data Student Book Skill Builders (SB)	MH2 Fractions & Decimals Student Book Skill Builders (SB)	MH3 Percent & Probability Student Book Skill Builders (SB)	MH4 Geometry & Measurement Student Book Skill Builders (SB)	MH5 Algebra Student Book Skill Builders (SB)
<b>CORE CONTENT A: INTEGERS &amp; LINEAR EQUATIONS</b>					
<b>1.</b> Represent, order, and compare integers.					
<b>a.</b> Explain everyday contexts (e.g., owing money, measuring elevations above and below sea level) where integers are used to quantify situations.					2 SB: 48-1
<b>b.</b> Compare ( $<$ , $>$ , $=$ ) and order integers, locate integers on a number line, recognize the absolute value as an integer's distance from zero on a number line and apply to problem situations.					4-10 SB: 48-2, 48-4
<b>2.</b> Model operations, compute fluently and solve problems with integers.					
<b>a.</b> Show how operations on integers can be modeled and use the models to develop and explain efficient procedures for computing with integers.					13-24 SB: 58-1, 58-2

	MH1 <i>Number Sense, Reasoning &amp; Data</i> Student Book Skill Builders (SB)	MH2 <i>Fractions &amp; Decimals</i> Student Book Skill Builders (SB)	MH3 <i>Percent &amp; Probability</i> Student Book Skill Builders (SB)	MH4 <i>Geometry &amp; Measurement</i> Student Book Skill Builders (SB)	MH5 <i>Algebra</i> Student Book Skill Builders (SB)
<b>b.</b> Compute fluently with integers in problem situations, applying order of operations and the absolute value of integers.					13-25, 51, 52 <b>SB:</b> 58-1 to 58-5
<b>c.</b> Estimate and judge the reasonableness of results involving integer operations.	47 <b>SB:</b> 43-3				
<b>d.</b> Identify and use properties (closure, associative, commutative, identity, inverse, zero) in computing with integers as well as order of operations.	11-16 <b>SB:</b> 2-1, 2-2, 2-3				8, 26 <b>SB:</b> 2-1
<b>e.</b> Use exponents to represent repeated multiplication and calculate the value of expressions represented with exponential notation.	21, 22, 28, 29 <b>SB:</b> 6-1, 6-2				
<b>3.</b> Represent situations and solve problems that involve linear relationships.					
<b>a.</b> Represent linear relationships with equations using both explicit and recursive (Next, Now) notation.					
<b>b.</b> Solve one- and two-step linear equations with integer coefficients.					41, 43, 46, 47 <b>SB:</b> 50-2, 50-4
<b>c.</b> Write and solve one- or two-step linear equations that correspond to problem situations.	18, 48, 49 <b>SB:</b> 43-4, 43-6				
<b>d.</b> Represent linear relationships using graphs, tables, and verbal descriptions.					61, 64 <b>SB:</b> 60-1
<b>e.</b> Identify relationships as linear or nonlinear and contrast their properties (e.g., rate of change) from tables, graphs, or equations.					<b>SB:</b> 60-5

	MH1 <i>Number Sense, Reasoning &amp; Data</i> Student Book Skill Builders (SB)	MH2 <i>Fractions &amp; Decimals</i> Student Book Skill Builders (SB)	MH3 <i>Percent &amp; Probability</i> Student Book Skill Builders (SB)	MH4 <i>Geometry &amp; Measurement</i> Student Book Skill Builders (SB)	MH5 <i>Algebra</i> Student Book Skill Builders (SB)
<b>CORE CONTENT B: PROPORTIONALITY &amp; SIMILARITY</b>					
<b>1.</b> Develop computational fluency in working with ratios, percents, and proportional situations and apply this fluency to estimate the solution to and solve a variety of problems.					
<b>a.</b> Use proportionality to model and solve problems, including percent applications and measurement conversions.	37, 38 <b>SB:</b> 46-2	24-27 <b>SB:</b> 26-2, 43-3, 46-1	27-30 <b>SB:</b> 26-1, 26-2, 26-3		
<b>b.</b> Estimate solutions to percent problems.		31-34 <b>SB:</b> 44-3			
<b>c.</b> Use proportionality to interpret circle graphs.		55, 56 <b>SB:</b> 68-2			
<b>2.</b> Identify, describe, and apply similarity relationships to find measures of corresponding parts in similar figures and apply scales/scale factors to measurements in drawings and maps.					
<b>a.</b> Given similar two-dimensional figures, identify the scale factor and describe the relationships between the scale factor and measurements of corresponding parts (angles, side lengths, perimeters, areas).				<b>SB:</b> 53-3	
<b>b.</b> Determine if two figures are similar and justify the conclusion by examining corresponding side lengths, angles, perimeters, and area.					
<b>c.</b> Interpret and solve scaling problems involving various mathematical contexts (e.g., indirect measurement, scale models).				30-32 <b>SB:</b> 46-2, 46-3	

	MH1 <i>Number Sense, Reasoning &amp; Data</i> Student Book Skill Builders (SB)	MH2 <i>Fractions &amp; Decimals</i> Student Book Skill Builders (SB)	MH3 <i>Percent &amp; Probability</i> Student Book Skill Builders (SB)	MH4 <i>Geometry &amp; Measurement</i> Student Book Skill Builders (SB)	MH5 <i>Algebra</i> Student Book Skill Builders (SB)
<b>3.</b> Connect the constant rate of change in a proportional relationship to the concept of slope of a line.					
<b>a.</b> Represent proportional relationships using graphs, tables, verbal descriptions, and equations, and make connections among the representations.					62-64 <b>SB:</b> 60-1
<b>b.</b> Determine the slope/rate of change of a line corresponding to the graph of a proportional relationship, recognize that slope is the same between any two points on the line, and that similar triangles may be used to demonstrate constant slope.					77
<b>c.</b> Determine the unit rate in a proportional relationship and relate it to the slope of the associate line.					
<b>CORE CONTENT C: SURFACE AREA AND VOLUME</b>					
<b>1.</b> Describe the components of two- and three-dimensional shapes.					
<b>a.</b> Know the names of the sides of a right triangle (legs and hypotenuse); dimensions of a circle or sphere (radius, diameter); surfaces of rectangular prisms (base, faces, vertices, edges).				3, 34, 36, 37 <b>SB:</b> 29-3, 54-3, 62-1	

	MH1 <i>Number Sense, Reasoning &amp; Data</i> Student Book Skill Builders (SB)	MH2 <i>Fractions &amp; Decimals</i> Student Book Skill Builders (SB)	MH3 <i>Percent &amp; Probability</i> Student Book Skill Builders (SB)	MH4 <i>Geometry &amp; Measurement</i> Student Book Skill Builders (SB)	MH5 <i>Algebra</i> Student Book Skill Builders (SB)
<b>b.</b> Describe the surfaces of common three-dimensional shapes (e.g., base of a cylinder is a circle; face of a cylinder is a rectangle) including cylinders, cones, rectangular prisms, pyramids.				36, 37 <b>SB:</b> 41-2, 62-1	
<b>c.</b> Describe the cross section (parallel to the base) of common three-dimensional figures (e.g., cylinder, cone, rectangular prism).					
<b>d.</b> Name the measurable features of three-dimensional shapes (size of base, height, surface area, volume) and know the types of units used to measure each feature.				71-74 <b>SB:</b> 41-1	
<b>2.</b> Develop formulas for measuring surface area and volume of common three-dimensional figures.					
<b>a.</b> Describe the relationships between the measurements of three-dimensional figures and the measures of related two-dimensional figures (e.g., the volume of a rectangular prism can be found by multiplying the base area by the height.)				71-74 <b>SB:</b> 41-2	
<b>b.</b> Recognize and draw two-dimensional representations (isometric and perspective drawings) of three-dimensional figures.				75, 76 <b>SB:</b> 62-2	
<b>c.</b> Determine the surface area and volume of right prisms and right cylinders.				71-73, 75, 76 <b>SB:</b> 41-1, 41-2, 62-2	

	MH1 <i>Number Sense, Reasoning &amp; Data</i> Student Book Skill Builders (SB)	MH2 <i>Fractions &amp; Decimals</i> Student Book Skill Builders (SB)	MH3 <i>Percent &amp; Probability</i> Student Book Skill Builders (SB)	MH4 <i>Geometry &amp; Measurement</i> Student Book Skill Builders (SB)	MH5 <i>Algebra</i> Student Book Skill Builders (SB)
<b>d.</b> Describe the relationship between the volume of right prisms and pyramids, and cylinders and cones.				73, 74	
<b>e.</b> Describe how surface area and volume are affected when a figure's linear dimensions are changed by a scale factor (whole number or unit fraction).				76 <b>SB:</b> 63-1	
<b>f.</b> Solve single- and multi-step word problems involving surface area or volume using appropriate units of measure.				72, 74 <b>SB:</b> 41-1, 41-2, 62-2	
<b>3.</b> Use the term "square root" (or "cube root") to denote the length of sides of squares (or cubes) with given volume.					
<b>a.</b> Find the length of a side of a square given its area and denote the side length as the "square root" of the area. Likewise, find the length of a side of a cube given its volume and denote the side length as the "cube root" of the volume.				33	
<b>b.</b> Estimate square roots of numbers less than 225 and cube roots of numbers less than 1000 between two whole numbers.	24 <b>SB:</b> 54-2				
<b>c.</b> Recall the square roots of perfect squares between 1 and 100 and the cube roots of perfect cubes from 1 through 10000.	23			<b>SB:</b> 54-1	
<b>d.</b> Solve area and volume problems using square and cube roots.					
<b>CORE CONTENT D: EXPERIMENTAL &amp; THEORETICAL PROBABILITY</b>					

	MH1 <i>Number Sense, Reasoning &amp; Data</i> Student Book Skill Builders (SB)	MH2 <i>Fractions &amp; Decimals</i> Student Book Skill Builders (SB)	MH3 <i>Percent &amp; Probability</i> Student Book Skill Builders (SB)	MH4 <i>Geometry &amp; Measurement</i> Student Book Skill Builders (SB)	MH5 <i>Algebra</i> Student Book Skill Builders (SB)
<b>1.</b> Conduct one-stage experiments to estimate the likelihood of a simple event, compare the experimental probability with an easily identifiable theoretical probability, describe and compare the likelihood of events.					
<b>a.</b> Determine the sample space for a given one-stage experiment using lists, tables, and tree diagrams to represent all possible outcomes.			62 (T.G.) <b>SB:</b> 66-1		
<b>b.</b> Within a given context, determine the theoretical probability of an event and its complement given a sample space.			70, 71 <b>SB:</b> 47-4		
<b>c.</b> Recognize that with the collection of more data, the experimental probability of a particular outcome approaches the theoretical probability and that although probability cannot determine an individual outcome, it can be used to predict the frequency of an outcome.			66, 67, 74 <b>SB:</b> 47-6		
<b>d.</b> Use experimental data to estimate the probability of an event when the theoretical probability is unknown.					