Math Teachers Press, Inc.

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NEVADA MATHEMATICS STANDARDS CORRELATED TO *MOVING WITH MATH® MIDDLE/HIGH (MH) GRADE 8*

	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)
1.0	**NUMBERS, NUMBER SENSE, AND COMPUTATION**				
	Students will accurately calculate and use estimation techniques, number relationships, operation rules, and algorithms; they will determine the reasonableness of answers and the accuracy of solutions to solve problems, communicate, reason, and make connections within and beyond the field of mathematics.				
	Place Value				
1.7.1	Represent numbers using scientific notation in mathematical and practical situations	29, 30 **SB:** 57-1, 57-2	**SB:** 57-1	**SB:** 57-1	
	Fractions				
1.8.2	Translate among fractions, decimals, and percents, including percents greater than 100 and percents less than 1.		50, 52, 53 **SB:** 20-1, 20-2	13, 14, 17-19 **SB:** 25-1 to 25-3	

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• Explain and use the relationship among equivalent representations of rational numbers in mathematical and practical situations.		5, 54	19, 20		
Comparing and Ordering					
1.8.3 Compare and order real numbers, including powers of whole numbers in mathematical and practical situations.		**SB:** 18-4	**SB:** 18-1		
Facts					
1.8.5 Identify perfect squares to 225 and their corresponding square roots.	23			**SB:** 54-1	
Estimating and Estimation Strategies					
1.8.6 Use estimation strategies to determine the reasonableness of an answer in mathematical and practical situations.	47, 48 **SB:** 10-3	22, 23 **SB:** 22-2	32-34 **SB:** 44-3	**SB:** 27-1	
Computation					
1.8.7 Calculate with real numbers to solve mathematical and practical situations.	14-16, 36, 37 **SB:** 7-1, 8-1, 9-2				
• Use order of operations to solve equations in the real number systems.	15, 16 **SB:** 59-1, 59-2				

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	Solving Problems and Number Theory					
1.8.8	Identify and apply the identity property, inverse property, and the absolute value of real numbers to solve problems.	13 **SB:** 2-3	**SB:** 2-1			
2.0	**PATTERNS, FUNCTIONS, AND ALGEBRA**					
	Students will use various algebraic methods to analyze, illustrate, extend, and create numerous representations (words, numbers, tables, and graphs) of patterns, functions, and algebraic relations as modeled in practical situations to solve problems, communicate, reason, and make connections within and beyond the field of					
	Patterns					
2.8.1	Find the missing term in a numerical sequence or a pictorial representation of a sequence.	31-34 **SB:** 42-1, 42-2, 42-4, 42-5	**SB:** 42-1	**SB:** 42-1		
	Variables and Unknowns					
2.8.2	Evaluate formulas and algebraic expressions using rational numbers (with and without technology).			**SB:** 43-3		58, 59 **SB:** 50-2 to 50-4
•	Solve and graphically represent equations and inequalities in one variable, including absolute value.					48, 53-58 **SB:** 50-5, 50-6, 60-5

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Number Sentences, Expressions, and Polynomials					
2.8.3 Add and subtract binomials.					
Relations and Functions					
2.8.4 Identify, model, describe, and evaluate functions (with and without technology).	70 **SB:** 42-3, 60-1				60, 61 **SB:** 60-1, 60-5
• Translate among verbal descriptions, graphic, tabular, and algebraic representations of mathematical situations (with and without technology).	61				60, 63
Linear Equations and Inequalities					
2.8.5 Solve linear equations and represent the solution graphically.					61, 62, 64 **SB:** 60-1
• Solve inequalities and represent the solution on a number line.					53-55 **SB:** 50-5
Algebraic Representations and Applications					
2.8.6 Describe how changes in the value of one variable affect the values of the remaining variables in a relation.					63 (T.G.)
3.0 MEASUREMENT					

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Students will use appropriate tools and techniques of measurement to determine, estimate, record, and verify direct and indirect measurements to solve problems, communicate, reason, and make connections within and beyond the field of					
Comparison, Estimation and Conversion					
3.8.1 Estimate and convert units of measure for mass and capacity within the same measurement system (customary and metric).				46-48 **SB:** 37-1	
Precision in Measurements					
3.8.2 Demonstrate an understanding of precision, error, and tolerance when using appropriate measurement tools.				44	
Formulas					
3.8.3 Identify how changes in a dimension of a figure effect changes in its perimeter, area and volume.				64 (T.G.), 71 (T.G.) **SB:** 55-1	
Money					
3.8.4 Calculate percents in monetary problems.			29, 46, 47 **SB:** 27-2		
Ratios and Proportions					

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3.8.5	Apply ratios and proportions to calculate rates and solve mathematical and practical problems using indirect measure.			21, 22 **SB:** 26-2	28, 30 **SB:** 26-3	**SB:** 26-1
4.0	**SPATIAL RELATIONSHIPS, GEOMETRY, AND LOGIC**					
	Students will identify, represent, verify, and apply spatial relationships and geometric properties to solve problems, communicate, and make connections within and beyond the field of mathematics.					
	Two-Dimensional Shapes					
4.8.1	Find and use the sum of the measures of interior angles of polygons				22, 23 **SB:** 52-3	
	Congruence, Similarity, and Transformations					
4.8.2	Apply the properties of equality and proportionality to congruent or similar shapes.				12, 25, 29, 30 **SB:** 32-2, 46-2	
	Coordinate Geometry and Lines of Symmetry					
4.8.3	Demonstrate dilation using coordinate geometry and models.				24 **SB:** 53-3	

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• Describe the relationship between an original figure and its transformation or dilation.				14, 24 **SB:** 32-4, 49-1	
Algebraic Connections					
4.8.5 Calculate slope, midpoint, and distance using equations and formulas (with and without technology).					77
• Determine the x- and y-intercepts of a line.					
Lines, Angles, and Their Properties					
4.8.6 Form generalizations and validate conclusions about geometric figures and their properties.				6-11 **SB:** 30-2, 31-1, 31-2	
Triangles					
4.8.7 Verify and explain the Pythagorean Theorem using a variety of methods.				34, 35 **SB:** 54-2, 54-3	
• Determine the measure of the missing side of a right triangle.				35 **SB:** 54-2, 54-3	
Constructions					
4.8.8 Construct geometric figures using a variety of tools.				8, 9, 13 **SB:** 29-2, 32-5	

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	Logic					
4.8.9	Represent logical relationships using conditional statements.					
5.0	**DATA ANALYSIS**					
	Students will collect, organize, display, interpret, and analyze data to determine statistical relationships and probability projections to solve problems, communicate, reason, and make connections within and beyond the field of mathematics.					
	Data Collection and Organization					
5.8.1	Formulate questions and design a study that guides the collection of data.	77 **SB:** 68-4				
•	Organize, display, and read data including box and whisker plots (with and without technology).	61, 62, 71, 72 **SB:** 67-3, 67-4		**SB:** 68-1, 68-2		
	Central Tendency and Data Distribution					
5.8.2	Select and apply appropriate measures of data distribution, using interquartile range and central tendency.	59, 60 **SB:** 45-2, 45-4, 67-2				

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Interpretation of Data					
5.8.3 Evaluate statistical arguments that are based on data analysis for accuracy and validity.			SB: 68-4		
Permutations and Combinations					
5.8.4 Find the number of combinations possible in mathematical and practical situations.			69 SB: 66-2		
• Distinguish between permutations and combinations.			69 SB: 66-2		
Experimental and Theoretical Probability					
5.8.5 Differentiate between the probability of an event and the odds of an event.			61 (T.G.), 64 (T.G.)		
Statistical Inferences					
5.8.6 Formulate reasonable inferences and predictions through interpolation and extrapolation of data to solve practical problems.	63, 64 SB: 67-1, 68-1, 68-4				
PROBLEM SOLVING					

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Students will develop their ability to solve problems by engaging in developmentally appropriate opportunities where there is a need to use various approaches to investigate and understand mathematical concepts in order to:					
- Formulate their own problems					
- Find solutions to problems from everyday situations					
- Develop and apply strategies to solve a variety of problems					
- Integrate mathematical reasoning, communication and connections					
• Generalize solutions and apply previous knowledge to new problem solving situations.					
• Determine an efficient strategy, verify, interpret, and evaluate the results with respect to the original problem.	25	7	9	21, 23	29
• Apply problem solving strategies until a solution is found or it is clear that no solution exists.	38, 45 (T.G.) **SB:** 43-1, 43-11	22, 23	33	56, 57	25
• Interpret and solve a variety of mathematical problems by paraphrasing.	38, 45 (T.G.)	27 (T.G.)	44	57	**SB:** 43-1

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• Identify necessary and extraneous information.	throughout	throughout	throughout	throughout	throughout
• Check the reasonableness of a solution.	41 **SB:** 43-1, 43-3	**SB:** 43-2			
• Apply technology as a tool in problem solving situations.	38, 47	22, 23, 35	32	56 (T.G.), 57 (T.G.)	**SB:** 43-1
			SB: 7-1		58 (T.G.), 59 (T.G.)
MATHEMATICAL COMMUNICATION Students will develop their ability to communicate mathematically by solving problems where there is a need to obtain information from the real world through reading, listening, and observing in order to:					
- Translate information into mathematical language and symbols					
- Process information mathematically					
- Present results in written, oral, and visual formats					
- Discuss and exchange ideas about mathematics as a part of learning					
- Read a variety of fiction and nonfiction texts to learn about mathematics					

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	- Use mathematical notation to communicate and explain problems					
•	Use formulas, algorithms, inquiry, and other techniques to solve mathematical problems	13, 15	30	10, 11, 41, 54	61-68	13-23, 65, 66
•	Evaluate written and oral presentations in mathematics	throughout	throughout	throughout	throughout	throughout
•	Identify and translate key words and phrases that imply mathematical operations	9, 10 SB: 1-1	23	SB: 1-1	SB: 1-1	SB: 1-1
•	Model and explain mathematical relationships using oral, written, graphic, and algebraic methods	throughout	throughout	throughout	throughout	throughout
•	Use everyday language, both orally and in writing, to communicate strategies and solutions to mathematical problems.	throughout	throughout	throughout	throughout	throughout
	MATHEMATICAL REASONING Students will develop their ability to reason mathematically by solving problems where there is a need to investigate mathematical ideas and construct their own learning in all content areas in order to:					
	- Reinforce and extend their logical reasoning abilities					

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- Reflect on, clarify, and justify their thinking					
- Ask questions to extend their thinking					
- Use patterns and relationships to analyze mathematical situations					
- Determine relevant, irrelevant, and/or sufficient information to solve mathematical problems					
• Recognize and apply deductive and inductive reasoning	51	35	59 (T.G.)		16 (T.G.)
• Review and refine the assumptions and steps used to derive conclusions in mathematical arguments	50, 51	35			
• Justify answers and the steps taken to solve problems with and without manipulatives and physical models.	throughout	throughout	throughout	throughout	throughout
MATHEMATICAL CONNECTIONS					
Students will develop the ability to make mathematical connections by solving problems where there is a need to view mathematics as an integrated whole in order to					
- Link new concepts to prior knowledge					

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- Identify relationships between content strands					
- Integrate mathematics with other disciplines					
- Allow the flexibility to approach problems in a variety of ways within and beyond the field of mathematics.					
• Use mathematical ideas from one area of mathematics to explain an idea from another area of mathematics.	61	43	4	77	21
• Use manipulatives and physical models to explain the relationships between concepts and procedures	throughout	throughout	throughout	throughout	throughout
• Use the connections among mathematical topics to develop multiple approaches to problems	50-54	77 (T.G.)	11	28 (T.G.)	26 (T.G.)
• Apply mathematical thinking and modeling to solve problems that arise in other disciplines, such as rhythm in music and motion in science.	3	54	42		65
• Identify, explain, and apply mathematics in everyday life.	39, 52 **SB:** 43-12	27, 67	22, 35, 39	31, 32, 58, 59	25, 63