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CORRELATION OF COLORADO MODEL CONTENT STANDARDS TO *MOVING WITH MATH® EXTENSIONS GRADE 8*

		Student Book	Skill Builders
STANDARD 1			
1.	Students develop number sense and use numbers and number relationships in problem-solving situations and communicate the reasoning used in solving these problems.		
1.1	Demonstrate meanings of integers, rational numbers, percents, exponents, square roots, and pi (p) using physical materials and technology in problem solving situations.	5, 17, 27, 34, 67-69	4-1, 6-1, 6-2, 11-1, 18-1, 48-1, 57-1, 57-2
1.1a	Recognize and use equivalent representations of positive rational numbers and common irrational numbers (for example, locate rational numbers on a number line and demonstrate the meaning of square roots and perfect squares).		
1.2	Read, write, and order integers, rational numbers and common irrational numbers such as $\sqrt{2}$, $\sqrt{5}$, and p.	1, 17, 27	4-1, 18-1, 48-1, 48-2, 57-1, 57-2
1.2a	Compare and order sets of integers and rational numbers that are expressed in a variety of ways.		48-1, 48-2
1.3	Apply number theory concepts (for example, primes, factors, multiples) to represent numbers in various ways.	4, 6	3-1
1.3a	Apply number theory concepts (for example, primes, factors, multiples, exponents) in problem solving situations.	4, 6	
1.4	Use the relationships among fractions, decimals, and percents, including the concepts of ratio and proportion, in problem-solving situations.	29, 34, 39	25-1, 25-2, 26-1, 26-2, 27-1, 51-1
1.4a	Use the relationships among fractions, decimals and percents including the concepts of ratio and proportion in problem solving situations (similarity, scale factor, unit rate).	39, 40	26-2, 27-1
1.5	Develop, test, and explain conjectures about properties of integers and rational numbers.	67, 69	2-1, 2-2, 48-2

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1.5a	Develop and test conjectures about properties of integers (does $3 - 5 = 5 - 3$?) and rational numbers.	69	48-2
1.6	Use number sense to estimate and justify the reasonableness of solutions to problems involving integers, rational numbers, and common irrational numbers such as $\sqrt{2}$, $\sqrt{5}$, and π .	2, 9, 10, 28, 37	5-1, 19-1, 43-2, 44-1
1.6a	Use number sense to estimate and justify the reasonableness of solutions to problems involving integers and rational numbers.	9, 10, 37	43-2, 44-1
STANDARD 2			
2.	Students use algebraic methods to explore, model, and describe patterns and functions involving numbers, shapes, data, and graphs in problem-solving situations and communicate the reasoning used in solving these problems.		
2.1	Represent, describe, and analyze patterns and relationships using tables, graphs, verbal rules, and standard algebraic notation.	8	42-1
2.1a	Represent, describe, and analyze patterns (for example, geometric and numeric) and relationships using tables, graphs, verbal rules, and standard algebraic notation.	8	42-1
2.1b	Convert from one functional representation (table, graph, verbal rule, standard algebraic notation) to another.	57 (T.G.)	
2.2	Describe patterns using variables, expressions, equations and inequalities in problem-solving situations.	75, 76	
2.2a	Describe patterns using variables, expressions, equations and inequalities in problem solving situations.	75, 76	
2.3	Analyze functional relationships to explain how a change in one quantity results in a change in another (for example, how the area of a circle changes as the radius increases, or how a person's height changes over time).	40 (T.G.), 56 (T.G.), 57 (T.G.)	
2.3a	Analyze functional relationships to explain how a change in one quantity results in a change in another (for example, how a person's height changes over time).	40 (T.G.), 56, 57(T.G.)	
2.4	Distinguish between linear and nonlinear functions through informal investigations.		
2.4a	Distinguish between linear and nonlinear functions through informal investigations.		

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2.5	Solve simple linear equations in problem-solving situations using a variety of methods (informal, formal, graphical) and a variety of tools (physical materials, calculators, computers).	78-80	50-1 to 50-3
2.5a	Solve simple linear equations in problem solving situations using a variety of methods (informal, formal, and graphic).	78-80	50-1 to 50-3
STANDARD 3			
3.	Students use data collection and analysis, statistics, and probability in problem-solving situations and communicate the reasoning used in solving thee problems.		
3.1	Read and construct displays of data using appropriate techniques (for example, line graphs, circle graphs, scatter plots, box plots, stem-and-leaf plots) and appropriate technology.	14-16	45-3
3.1a	Read and construct displays of data using appropriate techniques (for example, circle graphs, scatter plots, box and whisker plots, stem-and-leaf plots).	14-16	45-3
3.2	Display and use measures of central tendency, such as mean, median, and mode, and measures of variability, such as range and quartiles.	13, 14	45-1, 45-2
3.2a	Display and use measures of central tendency (such as mean, median, and mode) and measures of variability (such as range and quartiles) in problem solving situations.	13, 14	45-2
3.3	Evaluate arguments that are based on statistical claims.		
3.3a	analyze a graph, table or summary for misleading characteristics.		
3.3b	Recognize the misuse of statistical data in written arguments.		
3.3c	Describe how data can be interpreted in more than one way or be used to support more than one position in a debate.		
3.4	Formulate hypotheses, draw conclusions, and make convincing arguments based on data analysis.	14, 15	
3.4a	Formulate hypotheses, draw conclusions, and make convincing arguments based on data analysis.	14, 15	
3.6	Make predictions and compare results using both experimental and theoretical probability drawn from real-world problems.	26	47-1

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3.6a	Use a model (list, tree diagram, area model) to determine theoretical probabilities to solve problems involving uncertainty.	26	
3.6b	Make predictions using theoretical probability in real-world problems.	26	47-1
3.7	Use counting strategies to determine all the possible outcomes from an experiment (for example, the number of ways students can line up to have their picture taken).		
3.7a	Use a model or counting techniques to determine all the possible outcomes from an experiment (for example, the number of ways students can line up to have their picture taken).		
STANDARD 4			
4.	Students use geometric concepts, properties, and relationships in problem-solving situations and communicate the reasoning used in solving these problems.		
4.2	Describe, analyze, and reason informally about the properties (for example, parallelism, perpendicularity, congruence) of two- and three dimensional figures.	41-49, 52-55	29-1, 30-1, 31-1, 31-2, 32-2, 33-1, 33-2, 52-1
4.2a	Describe, analyze and reason informally about properties (for example, parallelism, perpendicularity, congruence, and similarity) of two- and three-dimensional figures.	41-49, 52-55	29-1, 30-1, 31-1, 31-2, 32-2, 33-1, 33-2, 52-1
4.3	Apply the concepts of ratio, proportion, and similarity in problem-solving situations.	35, 36, 40, 52, 53	26-1, 26-2, 46-1, 46-3
4.3a	Apply the concepts of ratio, proportion, and similarity in problem-solving situations.	35, 36, 40, 52, 53	26-2, 46-2, 46-3
4.4	Solve problems using coordinate geometry.	70	49-1
4.4a	Solve problems in real-world situations using coordinate geometry (for example, maps, distance on a number line).		
4.5	Solve problems involving perimeter and area in two dimensions, and involving surface area and volume in three dimensions.	58-66	38-1, 39-1, 40-1, 41-1, 41-2, 55-1, 55-2, 56-1
4.5a	Solve problems involving perimeter and area in two dimensions, and involving surface area and volume in three dimensions (include right prisms and cylinders).	58-66	38-1, 39-1, 40-1, 41-1, 41-2, 55-1, 55-2, 56-1
4.5b	Apply the Pythagorean Theorem to solve real-world problems.	55 (T.G.)	54-1

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4.6	Transform geometric figures using reflections, translations, and rotations to explore congruence.	46	
4.6a	Transform geometric figures using reflections, translations, and rotations to determine congruence.		
STANDARD 5			
5.	Students use a variety of tools and techniques to measure, apply the results in problem-solving situations, and communicate the reasoning used in solving these problems.		
5.1	Estimate, use, and describe measures of distance, perimeter, area, volume, capacity, weight, mass, and angle comparison.	43, 56-66	36-1, 37-1
5.1a	Estimate and use measures of area, volume, capacity, weight, and angle comparisons to solve problems.	43, 56-66	35-1, 36-1, 37-1
5.2	Estimate, make, and use direct and indirect measurements to describe and make comparisons.	56, 57	37-1, 37-2, 46-3
5.2a	Estimate, make and use direct and indirect measurements to describe and make comparisons (for example, use a proportion to find the height of a flag pole).	55 (T.G.), 56, 57	46-3
5.3	Read and interpret various scales including those based on number lines, graphs, and maps.	15-17	46-2
5.3a	Read and interpret scales on number lines, graphs and maps (for example, given a map and a scale, determine the distance between two points on the map).	15-17	46-2
5.4	Develop and use formulas and procedures to solve problems involving measurement.	59-66	38-1, 39-1, 40-1, 41-1, 55-1, 55-2, 56-1
5.4a	Develop and use procedures or formulas to solve problems involving measurement (for example, distance, area, surface area, and volume of right prisms and cylinders).	55-66	38-1, 39-1, 40-1, 41-1, 55-1, 55-2, 56-1
5.5	Describe how a change in an object's linear dimensions affects its perimeter, area, and volume.	58 (T.G.), 61(T.G.)	
5.5a	Describe how a change in an object's linear dimensions affects its perimeter, area and volume (for example, how the area of a circle changes as the radius increases).	58 (T.G.), 61(T.G.)	
STANDARD 6			

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6.	Students link concept and procedures as they develop and use computational techniques, including estimation, mental arithmetic, paper-and-pencil, calculators, and computers, in problem-solving situations and communicate the reasoning used in solving these problems.		
6.1	Use models to explain how ratios, proportions, and percents can be used to solve real-world problems.	35, 36, 38-40	25-1, 28-1, 46-1, 46-3, 51-1
6.1a	Use models to explain how ratios, proportions, and percents can be used to solve real-world problems.	35, 36, 38-40	25-1
6.1b	Convert from one set of units to another using proportions.	39	
6.2	Construct, use, and explain procedures to compute and estimate with whole numbers, fractions, decimals, and integers.	2, 7, 19, 23, 30, 37, 71, 73	5-1, 8-1, 9-1, 12-2, 44-1, 58-1, 58-2
6.2a	Apply order of operations to evaluate simple expressions with integers.		59-1
6.4	Select and use appropriate methods for computing with commonly used fractions and decimals, percents, and integers in problem-solving situations from among mental arithmetic, estimation, paper-and-pencil, calculator, and computer methods, and determining whether the results are reasonable.	9, 10	28-1, 43-1 to 43-3, 58-1, 58-2
6.4a	Apply computational methods (including ratio and proportion) to solve problems, involving commonly used fractions, decimals, percents, and integers (for example, discount, tax, sale price, unit price) and determine whether the results are reasonable.	25, 33, 36-39	27-1, 28-1