



Math Teachers Press, Inc.

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Correlation of *Moving with Algebra* To Massachusetts Mathematics Curriculum Framework Grades 7-8

		Part A Student Book Skill Builders (SB)	Part B Student Book Skill Builders (SB)
NUMBER SENSE AND OPERATIONS			
8.N.1	Compare, order, estimate, and translate among integers, fractions and mixed numbers (i.e., rational numbers), decimals and percent.	6-9, 64, 85, 86, 88-92, 129-142, 161-168 SB: 5-8, 54, 67-69, 70-72, 105-116, 130-132, 139, 140, 144, 145	241, 242 SB: 200, 201, 204
8.N.2	Define, compare, order, and apply frequently used irrational numbers.	80	209, 217 SB: 177, 185
8.N.3	Use ratios and proportions in the solution of problems, in particular, problems involving unit rates, scale factors, and rate of change.	122 SB: 102	222, 225-227, 275-278 SB: 187-189, 191, 192, 222, 223, 246
8.N.4	Represent numbers in scientific notation, and use them in calculations and problem situations.	22, 23, 25 SB: 17, 18	
8.N.5	Apply number theory concepts, including prime factorization and relatively prime numbers to the solution of problems.	20, 21 SB: 15, 16	
8.N.6	Demonstrate an understanding of absolute value.		242, 243 SB: 201
8.N.7	Apply the rules of powers and roots to the solution of problems. Extend the Order of Operations to include positive integer exponents and square roots.	16, 17 SB: 13	216, 217, 292-303, 305 SB: 184, 185, 228-233, 247, 252

		Part A Student Book Skill Builders (SB)	Part B Student Book Skill Builders (SB)
8.N.8	Demonstrate an understanding of the properties of arithmetic operations on rational numbers. Use the associative, commutative, and distributive properties; properties of the identity and inverse elements; and the notion of closure of a subset of the rational numbers under an operation.	10-15 SB: 9-12	268-271, 298, 299, 302, 303 SB: 220, 221, 231, 232
8.N.9	Use the inverse relationships of addition and subtraction, multiplication and division, and squaring and finding square roots to simplify computations and solve problems, e.g. multiplying by 1/2 or 0.5 is the same as dividing by 2.	29, 42, 43, 113-115, 127, 169-179 SB: 23, 24, 35, 36, 97, 98, 133-138, 143	216, 217 SB: 184, 185
8.N.10	Estimate and compute with fractions (including simplification of fractions), integers, decimals, and percents (including those greater than 100 and less than 1).	68-78, 87, 93-104, 107-115, 117, 123-127, 143, 144, 146-158, 169-179 SB: 56-60, 66, 73-86, 89-98, 117, 118, 120-127, 133-138, 141-143	244-248 SB: 202-206
8.N.11	Determine when an estimate rather than an exact answer is appropriate and apply in problem situations.	41, 104, 146 SB: 85, 86	
8.N.12	Select and use appropriate operations – addition, subtraction, multiplication, division, and positive integer exponents – to solve problems with rational numbers (including negatives).	32-34, 54, 55, 58, 59, 78, 105, 106, 116, 118, 119, 145, 146, 159, 160 SB: 27, 28, 44-46, 51-53, 87, 88, 101, 119, 128, 129	Throughout
8.P.1	Extend, represent, analyze, and generalize a variety of patterns with tables, graphs, words, and when possible, symbolic expressions. Include arithmetic and geometric progressions, e.g., compounding.	35, 85, 86, 88, 122 SB: 30, 66, 102, 140	198, 199, 221, 222, 307-309 SB: 166, 187, 188, 234, 235
8.P.2	Evaluate simple algebraic expressions for given variable values.		256, 258, 259, 261 SB: 216, 220
8.P.3	Demonstrate an understanding of the identity $(-x)(-y) = xy$. Use this identity to simplify algebraic expressions.	75 SB: 59	246, 264, 265 SB: 205, 210

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8.P.4	Create and use symbolic expressions and relate them to verbal, tabular, and graphical representations.		231-234, 249-253, 311-317 SB: 196, 197, 207, 208, 236-239, 254
8.P.5	Identify the slope of a line as a measure of its steepness and as a constant rate of change from its table of values, equation, or graph. Apply the concept of slope to the solution of problems.		320-324, 332, 333 SB: 241, 242, 254
8.P.6	Identify the roles of variables within an equation, e.g., $y = mx + b$, expressing y as a function of x with parameters m and b .		325-331 SB: 243, 244, 249
8.P.7	Set up and solve linear equations and inequalities with one or two variables, using algebraic methods, models, and/or graphs.		253-261, 266, 267, 270-274, 281-287 SB: 211-219, 221, 225, 250, 251
8.P.8	Explain and analyze – both quantitatively and qualitatively, using pictures, graphs, charts, or equations — how a change in one variable results in a change in another variable in functional relationships.		231-234, 311-317 SB: 196, 197, 236-239, 254
8.P.9	Use linear equations to model and analyze problems involving proportional relationships. Use technology as appropriate.		222, 225-227, 275-278 SB: 187-189, 191, 192, 222, 223, 246
8.P.10	Use tables and graphs to represent and compare linear growth patterns. In particular, compare rates of change and x - and y -intercepts of different linear patterns.		321-324, 329-331 SB: 241, 242, 244, 248
	GEOMETRY		
8.G.1	Analyze, apply, and explain the relationship between the number of sides and the sums of the interior and exterior angle measures of polygons.		196-199 SB: 164-166
8.G.2	classify figures in terms of congruence and similarity, and apply these relationships to the solution of problems.		203, 223-225 SB: 170, 189, 190

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8.G.3	Demonstrate an understanding of the relationships of angles formed by intersecting lines, including parallel lines cut by a transversal.		194, 195, 200 SB: 163, 167
8.G.4	Demonstrate an understanding of the Pythagorean theorem. Apply the theorem to the solution of problems.		218, 219 SB: 186
8.G.5	Use a straightedge, compass, or other tools to formulate and test conjectures, and to draw geometric figures.		182-191, 194-200 SB: 147-149, 151-153, 155, 159, 164-166, 169
8.G.6	Predict the results of transformations on unmarked or coordinate planes and draw the transformed figure, e.g., predict how tessellations transform under translations, reflections, and rotations.		204 SB: 171, 172
8.G.7	Identify three-dimensional figures (e.g., prisms, pyramids) by their physical appearance, distinguishing attributes, and spatial relationships such as parallel faces.		192, 193 SB: 161
8.G.8	Recognize and draw two-dimensional representations of three-dimensional objects, e.g., nets, projections, and perspective drawings.		192, 193, 212-214 SB: 162, 180-182
	MEASUREMENT		
8.M.1	Select, convert (within the same system of measurement), and use appropriate units of measurement or scale.		226, 227, 233, 234 SB: 191, 192, 198, 199
8.M.2	Given the formulas, convert from one system of measurement to another. Use technology as appropriate.		
8.M.3	Demonstrate an understanding of the concepts and apply formulas and procedures for determining measures, including those of area and perimeter/circumference of parallelograms, trapezoids, and circles, Given the formulas, determine the surface area and volume of rectangular prisms, cylinders, and spheres. Use technology as appropriate.		206-214 SB; 174-183

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8.M.4	Use ratio and proportion (including scale factors) in the solution of problems, including problems involving similar plane figures and indirect measurement.	122 SB: 102	225-227 SB: 189, 191, 192
8.M.5	Use models, graphs, and formulas to solve simple problems involving rates, e.g., velocity and density.		275-280 SB: 222-224, 246
	DATA ANALYSIS, STATISTICS, AND PROBABILITY		
8.D.1	Describe the characteristics and limitations of a data sample. Identify different ways of selecting a sample, e.g., convenience sampling, responses to a survey, random sampling.		
8.D.2	Select, relate, interpret, and utilize various tabular and graphical representations of data, e.g., circle graphs, Venn diagrams, scatter plots, stem-and-leaf plots, box-and-whisker plots, histograms, tables, and charts. Differentiate between continuous and discrete data and ways to represent them.	80, 87, 179 SB: 101	
8.D.3	Find, describe, and interpret appropriate measures of central tendency (mean, median, and mode) and spread (range) that represent a set of data. Use these notions to compare different sets of data.	56, 57 SB: 47-50	
8.D.4	Use tree diagrams, tables, organized lists, basic combinatorics ("fundamental counting principle"), and area models to compute probabilities for simple compound events, e.g., multiple coin tosses or rolls of dice.		