



Math Teachers Press, Inc.

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CP 4/06

Correlation of *Moving with Math® Extensions* Grade 8 To Wisconsin Model Academic Standards

By the end of grade eighth, students will:

Student Book

Skill Builders

A.8.1 Use reasoning abilities to

- evaluate information
- perceive patterns
- identify relationships

8

42-1

Concrete-
pictorial-
abstract
throughout

- formulate questions for further exploration
- evaluate strategies
- justify statements
- test reasonableness of results
- defend work

9, 10

9, 10

9, 10

A.8.2 Communicate logical arguments clearly to show why a result makes sense

A.8.3 Analyze non-routine problems by modeling, illustrating, guessing, simplifying, generalizing, shifting to another point of view, etc.

9-11, 25

9-1, 43-1 to 43-3

A.8.4 Develop effective oral and written presentations that include

- appropriate use of technology
- the conventions of mathematical discourse (e.g., symbols, definitions, labeled drawing)
- mathematical language
- clear organization of ideas and procedures
- understanding of purpose and audience

Concrete-
pictorial-

Glossary

A.8.5 Explain mathematical concepts, procedures, and ideas to others who may not be familiar with them

Small group
activities

A.8.6 Read and understand mathematical texts and other instructional materials and recognize mathematical ideas as they appear in other contexts

		Student Book	Skill Builders
B.8.1	Read, represent, and interpret various rational numbers (whole numbers, integers, decimals, fractions, and percents) with verbal descriptions, geometric models, and mathematical notation (e.g., expanded, scientific, exponential)	1, 5, 6, 17, 27, 67-69	4-1, 11-1, 18-1, 25-1
B.8.2	Perform and explain operations on rational numbers (add, subtract, multiply, divide, raise to a power, extract a root, take opposites and reciprocals, determine absolute value)	5-7, 12, 19-24, 30-32, 71-74	1-1, 6-1, 6-2, 7-1, 8-1, 9-1, 10-1, 12-1, 12-2, 13-1, 13-2, 14-1, 15-1, 16-1, 17-1, 21-1, 22-1, 23-1, 23-2, 24-1, 48-2, 57-1, 57-2, 58-1 to 58-4, 59-1
B.8.3	Generate and explain equivalencies among fractions, decimals, and percents	18, 29, 34	11-2, 11-3, 20-1, 20-2, 25-2
B.8.4	Express order relationships among rational numbers using appropriate symbols (>,<)	39	48-1
B.8.5	Apply proportional thinking in a variety of problem situations that include, but are not limited to		
•	ratios and proportions (e.g., rates, scale drawings, similarity)	33, 35, 36, 40	26-1, 26-2, 46-1 to 46-3
•	percents, including those greater than 100 and less than one (e.g. discounts, rate of increase or decrease, sales tax)	38	27-1, 28-1, 51-1
B.8.6	Model and solve problems involving number-theory concepts such as		
•	prime and composite numbers	4	3-1
•	divisibility and remainders		
•	greatest common factors	6	
•	least common multiples		
B.8.7	In problem-solving situations, select and use appropriate computational procedures with rational numbers such as		
•	calculating mentally		
•	estimating	2, 28	5-1, 9-1, 19-1, 19-2, 44-1, 43-1 to 43-3
•	creating, using, and explaining algorithms	9-11, 25, 37	

		Student Book	Skill Builders
	<ul style="list-style-type: none"> using technology (e.g., scientific calculators, spreadsheets) 		
C.8.1	Describe special and complex two- and three-dimensional figures (e.g., rhombus, polyhedron, cylinder) and their component parts (e.g., base, altitude, and slant height) by		
	<ul style="list-style-type: none"> naming, defining, and giving examples 	41-45, 48, 49	29-1, 30-1
	<ul style="list-style-type: none"> comparing, sorting, and classifying them 	41-45, 48, 49	29-1, 30-1, 31-2, 33-1, 33-2
	<ul style="list-style-type: none"> identifying and contrasting their properties (e.g., symmetrical, isosceles, regular) 	44, 45	31-1
	<ul style="list-style-type: none"> drawing and constructing physical models to specifications 	45	32-1
	<ul style="list-style-type: none"> explaining how these figures are related to objects in the environment 		
C.8.2	Identify and use relationships among the component parts of special and complex two- and three-dimensional figures (e.g., parallel sides, congruent faces)	47-55, 58-66	32-2, 38-1, 39-1, 40-1, 41-1, 41-2, 52-1, 52-2, 53-1, 54-1, 55-1, 55-2, 56-1
C.8.3	Identify three-dimensional shapes from two-dimensional perspectives and draw two-dimensional sketches of three-dimensional objects preserving their significant features		41-1
C.8.4	Perform transformations on two-dimensional figures and describe and analyze the effects of the transformations on the figures	46	
C.8.5	Locate objects using the rectangular coordinate system	70	49-1
D.8.1	Identify and describe attributes in situations where they are not directly or easily measurable (e.g., distance, area of an irregular figure, likelihood of occurrence)		
D.8.2	Demonstrate understanding of basic measurement facts, principles, and techniques including the following		
	<ul style="list-style-type: none"> approximate comparisons between metric and US Customary units (e.g., a liter and a quart are about the same; a kilometer is about six-tenths of a mile) 		

		Student Book	Skill Builders
	<ul style="list-style-type: none"> knowledge that direct measurement produces approximate, not exact, measures 		
	<ul style="list-style-type: none"> the use of smaller units to produce more precise measures 		
D.8.3	Determine measurement directly using standard units (metric and US Customary) with these suggested degrees of accuracy		
	<ul style="list-style-type: none"> lengths to the nearest mm or 1/16 of an inch 		36-1
	<ul style="list-style-type: none"> weight (mass) to the nearest 0.1 g or 0.5 ounce 		
	<ul style="list-style-type: none"> liquid capacity to the nearest ml 		
	<ul style="list-style-type: none"> angles to the nearest degree 		
	<ul style="list-style-type: none"> temperature to the nearest C or F 		
	<ul style="list-style-type: none"> elapsed time to the nearest second 		34-1
D.8.4	Determine measurements indirectly using		
	<ul style="list-style-type: none"> estimation 		36-1
	<ul style="list-style-type: none"> conversion of units within a system (e.g., quarts to cups, millimeters to centimeters) 	56, 57	35-1, 37-1, 37-2
	<ul style="list-style-type: none"> ratio and proportion (e.g., similarity, scale drawings) 		
	<ul style="list-style-type: none"> geometric formulas to derive lengths, areas, volumes of common figures (e.g., perimeter, circumference, surface area) 		
	<ul style="list-style-type: none"> the Pythagorean relationship 		
	<ul style="list-style-type: none"> geometric relationships and properties for angle size (e.g., parallel lines and transversals; sum of angles of a triangle; vertical angles) 		
E.8.1	Work with data in the context of real-world situations by		
	<ul style="list-style-type: none"> formulating questions that lead to data collection and analysis 	14-16	47-2
	<ul style="list-style-type: none"> designing and conducting a statistical investigation 	14-16	47-2
	<ul style="list-style-type: none"> using technology to generate displays, summary statistics, and presentations 		
E.8.2	Organize and display data from statistical investigations using		
	<ul style="list-style-type: none"> appropriate tables, graphs, and/or charts (e.g., circle, bar or line for multiple sets of data) 	14-16	47-2

		Student Book	Skill Builders
	<ul style="list-style-type: none"> appropriate plots (e.g., line, stem-and-leaf, box, scatter) 	14-16	47-2
E.8.3	Extract, interpret, and analyze information from organized and displayed data by using		
	<ul style="list-style-type: none"> frequency and distribution, including mode and range 		
	<ul style="list-style-type: none"> central tendencies of data (mean and median) 	13	45-1
	<ul style="list-style-type: none"> indicators of dispersion (e.g., outliers) 		
E.8.4	Use the results of data analysis to		
	<ul style="list-style-type: none"> make predictions 	14-16	
	<ul style="list-style-type: none"> develop convincing arguments 	14-16	
	<ul style="list-style-type: none"> draw conclusions 	14-16	
E.8.5	Compare several sets of data to generate, test, and, as the data dictate, confirm or deny hypotheses	14-16	47-2
E.8.6	Evaluate presentations and statistical analysis from a variety of sources for		
	<ul style="list-style-type: none"> credibility of the source 		
	<ul style="list-style-type: none"> techniques of collection, organization, and presentation of data 	14-16	47-2
	<ul style="list-style-type: none"> missing or incorrect data 		
	<ul style="list-style-type: none"> inferences 		
	<ul style="list-style-type: none"> possible sources of bias 		
E.8.7	Determine the likelihood of occurrence of simple events by		
	<ul style="list-style-type: none"> using a variety of strategies to identify possible outcomes (e.g., lists, tables, tree diagrams) 	26	47-3
	<ul style="list-style-type: none"> conducting an experiment 	26	47-3
	<ul style="list-style-type: none"> designing and conducting simulations 	26	47-3
	<ul style="list-style-type: none"> applying theoretical notions of probability (e.g., that four equally likely events have a 25% chance of happening) 	26	47-3
F.8.1	Work with algebraic expressions in a variety of ways, including		
	<ul style="list-style-type: none"> using appropriate symbolism, including exponents and variables 	75-80	50-1 to 50-3
	<ul style="list-style-type: none"> evaluate expressions through numerical substitution 	75-80	50-1 to 50-3
	<ul style="list-style-type: none"> generating equivalent expressions 	75-80	50-1 to 50-3
	<ul style="list-style-type: none"> adding and subtracting expressions 	75-80	50-1 to 50-3

		Student Book	Skill Builders
F.8.2	Work with linear and nonlinear patterns and relationships in a variety of ways, including	8	42-1
	<ul style="list-style-type: none"> representing them with tables, with graphs, and with algebraic expressions, equations, and inequalities 		
	<ul style="list-style-type: none"> describing and interpreting their graphical representations (e.g., slope, rate of change, intercepts) 		
	<ul style="list-style-type: none"> using them as models of real-world phenomena 		
	<ul style="list-style-type: none"> describing a real-world phenomenon that a given graph might represent 		
F.8.3	Recognize, describe, and analyze functional relationships by generalizing a rule that characterizes the pattern of change among variables. These functional relationships include exponential growth and decay (e.g., cell division, depreciation)	31, 56, 57	
F.8.4	Use linear equations and inequalities in a variety of ways, including		
	<ul style="list-style-type: none"> writing them to represent problem situations and to express generalizations 	76-80	
	<ul style="list-style-type: none"> solving them by different methods (e.g., informally, graphically, with formal properties, with technology) 	76-80	
	<ul style="list-style-type: none"> writing and evaluating formulas (including solving for a specified variable) 	58-64	
	<ul style="list-style-type: none"> using them to record and describe solution strategies 	76-80	
F.8.5	Recognize and use generalized properties and relations, including		
	<ul style="list-style-type: none"> additive and multiplicative property of equations and inequalities 		
	<ul style="list-style-type: none"> commutatively and associatively of addition and multiplication 		2-1
	<ul style="list-style-type: none"> distributive property 	3	2-2
	<ul style="list-style-type: none"> inverse and identities for addition and multiplication 		