Mathematics Textbook Correlation Matrices
Grade Eight Standards of Learning
Publisher: CORD Communications, Inc **Text/Instructional Material Title:** **Bridges to Algebra and Geometry, 2nd Edition**

Mathematics Standards	**Correlation By Page Numbers** Make all correlations using the student text. Identify the five *most significant* correlations. Include correlations that address the introduction and development of each concept. Use each bullet of the standard in the context of the stem. Consult the 2002 Mathematics Curriculum Framework for further information about each standard.
Number and Number Sense 8.1 The student will a) simplify numerical expressions involving positive exponents, using rational numbers, order of operations, and properties of operations with real numbers;	16-21, 24-28, 36-41, 140-147, 148-153, 162-167, 168-175, 236-240, 254-260, 261-265, 266-272, 524-529, 530-534
b) recognize, represent, compare, and order numbers expressed in scientific notation; and	536-541, 549-550, 603, 656
c) compare and order decimals, fractions, percents and numbers written in scientific notation.	6-10, 21-23, 134-138, 241-246, 247-253
8.2 The student will describe orally and in writing the relationship between the subsets of the real number system.	4, 129, 247, 553, 554

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Computation and Estimation		236-240, 241-246, 247-253, 254-260, 261-265, 266-272, 294-298, 299-303, 304-310, 348-353, 354-361, 362-366, 367-373, 374-380, 381-388
8.3	The student will solve practical problems involving rational numbers, percents, ratios, and proportions. Problems will be of varying complexities and will involve real-life data, such as finding a discount and discount prices and balancing a checkbook.	
8.4	The student will apply the order of operations to evaluate algebraic expressions for given replacement values of the variables. Problems will be limited to positive exponents.	16-21, 24, 25, 28, 33, 36-41, 56, 66, 75, 79, 90, 113, 114, 139, 145, 151, 164, 166, 169, 172, 196, 208, 216, 246, 282, 320, 326, 360, 371, 380, 447, 472, 500, 524-529, 534, 549
8.5	The student, given a whole number from 0 to 100, will identify it as a perfect square or find the two consecutive whole numbers between which the square root lies.	551-555

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Measurement 8.6 The student will verify by measuring and describe the relationships among vertical angles, supplementary angles, and complementary angles and will measure and draw angles of less than 360°.	466-472, 488-489
8.7 The student will investigate and solve practical problems involving volume and surface area of rectangular solids (prisms), cylinders, cones, and pyramids.	650-656, 657-663, 664-670, 671-678, 680-687, 687-689, 689-690, 691-692, 693-694

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Geometry		495-500, 501-505, 506-512, 520-521, 593-598
8.8	The student will apply transformations (rotate or turn, reflect or flip, translate or slide, and dilate or scale) to geometric figures represented on graph paper. The student will identify applications of transformations, such as tiling, fabric design, art, and scaling.	
8.9	The student will construct a three-dimensional model, given the top, side, and/or bottom views.	642-648
8.10	The student will a) verify the Pythagorean Theorem, using diagrams, concrete materials, and measurement; and	557-558
	b) apply the Pythagorean Theorem to find the missing length of a side of a right triangle when given the lengths of the other two sides.	557-565, 570-573, 574-575, 598, 670, 685

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Probability and Statistics		311-315, 3165-321, 322-326, 327-332, 333-337, 339-341, 341-343, 344-345, 389-390
8.11	The student will analyze problem situations, including games of chance, board games, or grading scales, and make predictions, using knowledge of probability.	
8.12	The student will make comparisons, predictions, and inferences, using information displayed in frequency distributions; box-and-whisker plots; scattergrams; line, bar, circle, and picture graphs; and histograms.	76-79, 85-90, 91-99, 100-107, 108-116, 120-121, 122-125, 159, 221, 246, 265, 309, 357, 358, 359, 385, 396, 614
8.13	The student will use a matrix to organize and describe data.	12-13, 100, 103, 306, 341

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Patterns, Functions, and Algebra		52, 405-409, 410-412, 419-427, 428-432, 433-438, 439-448
8.14	The student will a) describe and represent relations and functions, using tables, graphs, and rules; and	
	b) relate and compare tables, graphs, and rules as different forms of representation for relationships.	405-409, 410-412, 417, 419-427, 439-448, 449-450
8.15	The student will solve two-step equations and inequalities in one variable, using concrete materials, pictorial representations, and paper and pencil.	198-202, 211-216, 232-233, 273-277, 278-284
8.16	The student will graph a linear equation in two variables, in the coordinate plane, using a table of ordered pairs.	405-412, 422
8.17	The student will create and solve problems, using proportions, formulas, and functions.	217-223, 304-310, 354-361, 367-373, 374-380, 381-388, 405-412, 426-427, 428-432, 439-448
8.18	The student will use the following algebraic terms appropriately: *domain, range*, *independent variable,* and *dependent variable*.	439-447 **(Note:** input and output used in place of independent and dependent variable**)**

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1. Materials emphasize the use of effective instructional practices and learning theory:	
• Students are guided through problem-solving approaches.	53, 200, 304, 476, 609
• Concepts are introduced through concrete experiences that use manipulatives and other technologies.	42, 140, 186, 407, 442
• Multiple opportunities are provided for students to develop and apply concepts through the use of calculators, computers, and other technologies.	118, 257, 393, 425, 690
• Students use the language of mathematics including specialized vocabulary and symbols.	16, 70, 311, 439, 461
• Students use a variety of representations (graphical, numerical, symbolic, verbal, and physical) to connect mathematical concepts.	120-121, 128-130, 236-239, 316-318, 460-462

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2. Materials present content in an accurate, unbiased manner: • Materials are relatively free of content and production errors (misspelled words, word omissions, incorrect answers). • Diverse groups (racial, ethnic, cultural, linguistic), males and females, people with disabilities, and people of all ages are represented appropriately.	49, 168, 327, 439, 551 11, 148, 346, 551, 568

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3. The mathematics content is significant and accurate: • Materials are presented in an organized, logical manner which represents the current thinking on how students learn mathematics. • Materials are organized appropriately within and among units of study. • Format design includes titles, subheadings, and appropriate cross-referencing for ease of use. • Writing style, length of sentences, vocabulary, graphics, and illustrations are appropriate. • Level of abstraction is appropriate, and real life examples, including careers, are provided. • Sufficient applications are provided to promote depth of application.	iii, iv, v, vi, vii, viii iii, iv, v, vi, vii, viii 85, 192, 247, 367, 524 108, 241, 367, 530, 650 49, 134, 247, 354, 488 21-23, 97-99, 196-197, 360-361, 564-565

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