

# Correlation of Competencies Assessed with the Ohio High School Graduation Qualifying Examination -- Mathematics with

## ***CORD Algebra 1***

SE Complete: 0-538-67121-1                      and  
SE Part A: 0-538-67465-2  
SE Part B: 0-538-67466-0

Unless indicating differently, the references in the right columns are to chapters and lessons in the Student Editions of ***CORD Algebra 1*** and ***CORD Geometry***. For example, 4.5 indicates Chapter 4 Lesson 5. Review of competencies may be found in the last sections of later lessons; these sections are titled "Mixed Review." Additional instructional and assessment materials may be found in the Math Labs and Math Applications in the indicated chapters, and in ancillary materials for the lessons. Ancillary materials include Teacher's Resource Books, Supplementary Worksheets, and Software Generated Assessment packages.

<b>Strand Competencies</b>	<b><i>CORD Algebra 1</i></b>	<b><i>Comments</i></b>
<b>Number and Numeracy</b>		
1. represent and use real numbers in a variety of equivalent forms.	See Lessons 1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 3.5, 4.3, 5.1, 5.5, 6.4, 12.1, 12.3, 12.5, and 12.6.	
2. estimate and compute with real numbers.	See Lessons 1.3, 1.4, 1.5, 1.6, 1.7, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 3.5, 7.1, 7.2, 7.4, 7.5, 7.6, 7.7, 7.8, 12.1, 12.1, 12.3, 12.4, 12.5, and 12.6.	Add: 6.5, 11.1  Change: second 12.1 to 12.2
3. apply rates, ratios, proportions, and percents	See Lessons 3.5, 4.3, 5.3, 5.4, 5.5, 5.6, and throughout.	Add: 12.1

<b>Strand Competencies</b>	<b><i>CORD Algebra 1</i></b>	
<b>Algebra and Functions</b>		
4. write, interpret, simplify, evaluate, and/or use algebraic expressions and formulas	See pages x-xv and Lessons 3.1, 3.2, 3.3, 3.4, 3.5, 4.2, 12.1, 12.2, 12.3, 12.4,	
5. use linear equations and inequalities.	See Lessons 3.2, 3.4, 3.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.79.1, 9.2, 9.3, 9.4, and 9.5.	Add: 5.4, 5.5, 5.6, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6 Change: Place comma between 4.7 and 9.1
6. represent a mathematical relationship using a table, graph, symbols, and words, and describe how a change in the value of one variable affects the value of a related variable.	See pages x-xvi and Lessons 1.2, 1.6, 1.7, 3.1, 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.4.3, 4.4, 4.5, 4.6, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 7.1, 7.2, 7.3, 7.5, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 11.1, 11.2, 11.3, 12.1, 12.2, 12.3, 12.4, 12.5, and 12.6.	Add: 1.5 Change: change 4.4.3 to 4.3
7. create and analyze graphs of linear and simple non-linear functions.	See Lessons 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 8.1, 8.2, 11.1, 11.2, 11.3, 11.4, and 11.6.	
<b>Geometry and Measurement</b>		
8. apply angle relationships to situations involving intersecting lines, perpendicular lines, and parallel lines.		
9. recognize and apply characteristics of congruent and similar figures.	See Lessons 11.2, 12.1, 12.4, and 12.5.	

Strand Competencies	<i>CORD Algebra 1</i>	
<b>Geometry and Measurement, cont'd.</b>		
10. apply visualization, spatial sense, and properties of two-dimensional figures and three-dimensional objects.	See Lessons 1.1, 1.3, 1.4, 1.5, 1.6, 1.7, 3.1, 3.2, 3.3, 3.4, 4.1, 4.3, 4.4, 4.6, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 7.2, 7.3, 7.4, 7.6, 7.7, 7.8, 8.1, 8.2, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 10.1, 10.2, 10.3, 10.4, 10.6, 10.7, 10.9, 11.1, 11.2, 11.3, 11.4, 11.6, 12.1, 12.2, 12.3, 12.4, 12.5, and 12.6.	
11. use mathematical techniques including scale drawings, formulas, and geometric relationships to find length, perimeter, area, surface area, and volume.	See pages ix-xvi, and Lessons 3.1, 3.2, 3.3, 3.4, 4.1, 4.3, 4.6, 4.6, 4.7, 6.3, 6.4, 7.2, 8.3, 10.1, 10.2, 10.3, 10.4, 10.6, 10.7, 10.9, 11.3, 11.4, 11.5, 12.1, 12.2, 12.3, 12.4, 12.5, and 12.6.	Add: 2.3, 7.6, 8.2, 9.8
<b>Data Analysis and Probability</b>		
12. create, interpret and/or analyze tables, charts, and graphs involving data.	<p>See Lessons 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 2.6, 3.1, 3.2, 3.4, 4.1, 4.3, 4.6, 4.7, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 8.1, 8.2, 8.3, 8.6, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 10.1, 10.2, 10.3, 10.6, 10.7, 10.9, 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 12.1, 12.2, 12.4, and 12.5.</p> <p>See Workplace Communication features on pages 1-6, 1-31, 3-23, 5-14, 5-42, 6-15, 7-15, 7-35, 8-22, 9-17, 11-27, 12-29, and 12-44.</p> <p>Also, Math Lab Activities in each chapter involve collecting, displaying, and interpreting data. Data Collection Sheets as well as Supplementary Labs are found in the Supplementary Worksheets.</p>	

<b>Strand Competencies</b>	<b><i>CORD Algebra 1</i></b>	
<b>Data Analysis and Probability, cont'd.</b>		
13. choose and apply measures of central tendency (mean, median, and mode) and variability (range and visual displays of distribution).	See Lesson 7.1, 7.2, and 7.3	Note: This competency was omitted from the last copy I received.
14. represent and interpret the possible outcomes for a mathematical situation and calculate probabilities.	See Lessons 7.4, 7.5, 7.6, 7.7, and 7.8.	
<b>Strand Competencies</b>	<b><i>CORD Algebra 1</i></b>	

**Mathematical Processes**

15. communicate mathematical ideas, reasoning, and solutions through the use of appropriate mathematical terminology, notations, symbols, definitions, models, and other representations.

Throughout ***CORD Algebra 1***, students are prompted to communicate their ideas, reasoning, and solutions with appropriate mathematical terminology.

Lesson Activities prompt students to do, observe, and explain. For example, see Activities in Lessons 5.2, 9.3, and 10.2.

Every Lesson Assessment begins with a section titled “Think and Discuss.” For example, see Lessons 1.2, 2.2, 3.2, 4.5, 5.7, 6.5, 7.1, 8.4, 9.3, 10.1, 11.3, and 12.4.

Critical Thinking questions ask students to extend what has been presented in the Lessons to construct new knowledge. For example, see Lessons 3.5, 5.4, 7.1, 9.4, 10.6, 11.6, and 12.5.

Math Lab Activities in every chapter also prompt students to do, observe, and explain.

In interesting contrast, the Workplace Communication feature presents a business problem that requires mathematics to solve. The modes of communication include memos, emails, faxes, and so on.

<b>Strand Competencies</b>	<b><i>CORD Algebra 1</i></b>	
<b>Mathematical Processes, cont'd.</b>		
<p>16. apply problem-solving strategies and evaluate processes, strategies, calculations, and solutions to verify reasonableness; and use mathematical reasoning to validate and/or generalize approaches, arguments, strategies, and solutions.</p>	<p>The overriding characteristic of each of the programs in the CORD Mathematics in Context series is an inherent demonstration that mathematics can be identified and used in a wealth of contexts, and that presenting mathematical ideas within contexts enhances students' learning.</p> <p>In <b><i>CORD Algebra 1</i></b>, contextual problem situations are found in</p> <p>Lesson development – for example, see pages 3-5, 3-26, 6-5, 7-11, 8-4 – 8-5, 9-20, 10-23, and 11-10.</p> <p>Lesson Activities – for example, see pages 5-30, 7-24, and 8-12;</p> <p>Examples in Lessons – for example, see pages 2-19, 4-13, 6-28, and 7-8;</p> <p>Math Labs in every chapter – See pages 1-40 – 1-44, 2-33 – 2-36, 3-29 – 3-34, 4-45 – 4-49, 5-48 – 5-52, 6-45 – 6-47, 7-58 – 7-62, 8-44 – 8-48, 9-45 – 9-51, 10-53 – 10-55, 11-42 – 11-49, and 12-45 – 12-49; and</p> <p>Math Applications – See pages 1-45 – 1-61. 2-36 – 2-45, 3-35 – 3-43, 4-50 – 4-61, 5-53 – 5-63, 6-48 – 6-63, 7-63 – 7-75, 8-49 – 8-59, 9-52 – 9-61, 10-56 – 10-60, 11-50 – 11-61, and 12-50 – 12-62.</p>	