

**West Virginia Applied Mathematics I Objectives
with CORD Bridges, 2nd Edition**

VENDOR: CORD COMMUNICATIONS INSTRUCTIONAL MATERIALS: GRADE: _____
Bridges to Algebra and
Geometry
SUBJECT: Applied Mathematics I COPYRIGHT DATE(S): 2004
SE ISBN: 1-57837-341-7 TE ISBN: _____
COMMENTS: _____

APPLIED MATHEMATICS I

Applied Mathematics I and Applied Mathematics II reflect the content of a complete course in Applied Mathematics. Applied Mathematics I is the first half of the Applied Mathematics course. One Applied Mathematics credit will be given for successful completion of this course. Upon successful completion of both courses, Algebra I credit will be given. Applied Mathematics I is a lab-based course taught with teacher-led, concrete activities. This course is designed to develop algebraic concepts applicable in the work place as well as in traditional areas. West Virginia teachers are responsible for analyzing the benefits of technology for learning and for integrating technology appropriately in the students' learning environment. See the related grade-level Technology Standards and Objectives.

The evaluation of all mathematics materials is based on separate criteria for three (3) categories:

- Category I: Standards Based Components
- Category II: Technology and Manipulatives
- Category III: Mathematics Content

In order to be approved and listed on the West Virginia Multiple List for Mathematics Materials, each category must be evaluated separately.

- Category I: Standards Based Components must meet 80% (4/5) of the criteria at "In-depth" and/or "Adequate."
- Category II: Technology and Manipulatives must also meet 80% (7/8) of the criteria at "In-depth" and/or "Adequate."
- Category III: Mathematics Content must meet 80% of the criteria at "In-depth" and/or "Adequate" for each grade level or course.

All materials at this grade level must (1) be research based and theory driven; (2) incorporate basic, accurate information that is developmentally appropriate; (3) use interactive activities that actively engage students; (4) provide students with opportunities to model and practice relevant skills; (5) develop higher order thinking opportunities; and (6) be based on national standards. The instructional materials should provide students with opportunities to

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	<i>I = In-depth</i>	<i>A = Adequate</i>	<i>M = Minimal</i>	<i>N = Nonexistent</i>		I	A	M

<u>Pages 29-32,</u> <u>42-47, 49-55,</u> <u>see also</u> <u><i>Problem</i></u> <u><i>Solving: Using</i></u> <u><i>the Four-Step</i></u> <u><i>Plan</i>, pages 53,</u> <u>103, 165, 200,</u> <u>258, 306, 377,</u> <u>422, 476, 546,</u> <u>609, 652</u>	1.	use investigation to solve practical problems involving computation and estimation (AM1.2.1)				—	—	—	—
<u>Pages 536-541,</u> <u>549-550, 574,</u> <u>656</u> <u>Teacher's</u> <u>Resource Book</u> <u>pages 475, 477,</u> <u>479</u>	2.	apply scientific notation to solve practical problems (AM1.2.2)				—	—	—	—
<u>Math Labs:</u> <u>pages 59-60,</u> <u>63-65, 117-118,</u> <u>120-121,</u> <u>176-177,</u> <u>178-179,</u> <u>224-225,</u> <u>338-339,</u> <u>391-392,</u> <u>451-452,</u> <u>566-568,</u> <u>568-570,</u> <u>635-637</u>	3.	measure using precision instruments (AM1.2.3)				—	—	—	—

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<u>Pages 154-159, 254-272 as well as “Practice & Apply” and “Cumulative Problem Solving” problems throughout the textbook</u>	4.	solve practical problems and interpret results using rational numbers and vectors (AM1.2.4)	___	___	___	___	___	___	___
<u>Pages 17-21, 24-28, 36-41</u>	5.	evaluate algebraic expressions using grouping symbols, order of operations, and properties of real numbers with justification of steps (AM1.2.5)	___	___	___	___	___	___	___
<u>Pages 16-17, 20-21, 185, 189 (example 2), 192-193 (example 1), 194 (example 2), 198 (paragraph 1 and 2), 209 (example 1), 211 (Activity 1)</u>	6.	translate word phrases into algebraic expressions, and translate word sentences into equations and inequalities (AM1.2.6)	___	___	___	___	___	___	___
<u>189, 193, 194, 198, 199, 204, 205, 206, 212, 213, 219, 257</u>	7.	justify steps in the solving of equations based on the properties of real numbers (AM1.2.7)	___	___	___	___	___	___	___
<u>Pages 218 (Activity: Method 2), 219 (Example 3), 220 (Exercises 21, 22), 223 (Exercises 42, 43), 228-231 (Activity 3)</u>	8.	solve literal equations for a given variable and apply the skills towards solving practical problems (AM1.2.8)	___	___	___	___	___	___	___

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<u>Pages 49-55,</u> <u>see also</u> <u><i>Problem</i></u> <u><i>Solving: Using</i></u> <u><i>the Four-Step</i></u> <u><i>Plan</i>, pages 53,</u> <u>103, 165, 200,</u> <u>258, 306, 377,</u> <u>422, 476, 546,</u> <u>609, 652</u>	9.	solve practical problems using problem solving strategies (AM1.2.9)	___	___	___	___	___	___	___
<u>Pages 198-202,</u> <u>203-210,</u> <u>211-216, 257</u> <u>(Example 5)</u>	10.	solve multi-step linear equations in one variable and apply skills toward solving practical problems (AM1.2.10)	___	___	___	___	___	___	___
<u>Pages 273-277,</u> <u>278, 279,</u> <u>280-282, 371,</u> <u>418, 432, 478,</u> <u>670, 677</u>	11.	solve multi-step linear inequalities in one variable, and interpret the results on a number line and apply skills toward solving practical problems (AM1.2.11)	___	___	___	___	___	___	___
<u>For application</u> <u>and practical</u> <u>problems see</u> <u>“Practice &</u> <u>Apply” &</u> <u>Cumulative</u> <u>Problem</u> <u>Solving”</u> <u>problems</u> <u>throughout</u> <u>Chapter 5</u> <u>Teacher’s</u> <u>Resource Book</u> <u>pages 239, 241,</u> <u>245, 247</u> <u>none</u>	12.	solve absolute value equations in one variable and interpret the results on a number line (AM1.2.12)	___	___	___	___	___	___	___

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<u>Pages 70-74, 76</u> <u>Activity 1), 77</u> <u>(Activity 2),</u> <u>78-79,</u> <u>80-81,(Activity,</u> <u>Example),</u> <u>82-83, 117-118</u> <u>(Math Lab</u> <u>Activity 1).</u> <u>Note: Standard</u> <u>Deviation not</u> <u>covered.</u>	13.	collect, organize, and interpret data generated through student investigations, and predict outcomes using the mean, mode, median, range, and standard deviation (AM1.2.13)				—	—	—	—
<u>Pages 553</u> <u>(Example 2),</u> <u>555 (Exercises</u> <u>28, 29, 30)</u>	14.	estimate and simplify square roots (AM1.2.14)				—	—	—	—
<u>Pages 524-529,</u> <u>530-534</u>	15.	use the laws of exponents to perform operations on expressions with integral exponents (AM1.2.15)				—	—	—	—
<u>Pages 311-315,</u> <u>316-319,</u> <u>327-332,</u> <u>339-341 (Math</u> <u>Lab Activity 2),</u> <u>341-343 (Math</u> <u>Lab Activity 3)</u>	16.	use investigations to predict the outcomes of simple events using the rules of probability (AM1.2.16)				—	—	—	—

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See Math Lab
Activities at the
end of each
chapter
(pages 59-65,
117-121,
176-181,
224-231,
285-289,
338-343,
389-395,
449-455,
513-519,
566-573,
630-637,
687-693

17. solve problems using data generated
through student investigation

___ ___ ___ ___