



NEVADA
Mathematics Content Standards
Grade Twelve
Contemporary Mathematics in Context: A Unified Approach
Courses 1, 2, 3, and 4 Parts A/B © 2003

CONTENT STANDARDS	PAGE REFERENCES			
	Course 1	Course 2	Course 3	Course 4
Numbers, Number Sense, and Computation				
Content Standard 1.0: <i>To solve problems, communicate, reason, and make connections within and beyond the field of mathematics, students will accurately calculate, use estimation techniques, number relationships, operation rules, and algorithms; they will determine the reasonableness of answers and the accuracy of solutions.</i>				
By the end of Grade 12 , students know and are able to do everything required in the previous grades and:				
1.12.1 I/S Calculate and estimate sums, differences, products, quotients, powers , and roots using mental math, formulas , and algorithms . S 23.12.3; C 4.12.1	SE: 9 #2c, 12 #8, 19 #a, 36 #6, 37 #a, 39 #2, 43 #3, 45 #1, 49 #5, 115 #a	SE: 13, 30, 35, 40 #11, 43 #4-#6, 47 #3a, 239 #1, 305 #1, 307 #5, 308 #1	SE: 198-199, 215-217, 218-224, 229-233, 235-239, 432 TG: E T215	SE: 5, 159-164, 168-172, 401 #6, 439 #6, 441-443, 444-448, 607-611, 621 #3 TG: E T517-T523
1.12.2 W/L Apply the laws of exponents to perform operations on expressions with integral exponents and expressions in scientific notation. S 1.12.2	SE: 145 ex 2, 433 #1, 480 #5 TG: C 426 #7c I 428 #5a	SE: 40 #11, 238, 300-302, 306 #2, 307 #1	SE: 200, 204, 210 #5, 212-214 TG: E T200	SE: 164 #1, 439 #6 <i>On Your Own</i> 168 <i>PUMP</i> 51 #9-#10

CONTENT STANDARDS	PAGE REFERENCES			
	Course 1	Course 2	Course 3	Course 4
1.12.3 I/S Apply the properties and theories of the real number system to everyday situations. S 1.12.2; H 3.12.4	SE: 224, 239 #1, 241 #4, 242 #3 TG: R 241 #1	SE: 43 #5-#6, 44 #7-#8, 45, 50 #5c, 52 #4b, 61 #5b, 300-302, 307 #1, 309 #3 TG: C 45	SE: 192-196, 197-200, 201-207 TG: M T202-T207	The properties of real numbers are reviewed and applied. SE: 392-394, 610
1.12.5 W/L Perform simple operations on matrices .	SE: 269 #2, 270 #3, 274 #3, 275 #3 TG: C 270	SE: 13, 14 #1a, 15, 28 #4, 30, 31-34, 35, 40 #11 TG: I 31 N 32	SE: 205 #5, 499-500, 517 TG: M T205, T499-T500, T517	SE: 367-368 TG: E T423
Patterns, Functions, and Algebra				
Content Standard 2.0: To solve problems, communicate, reason, and make connections within and beyond the field of mathematics, students will use various algebraic methods to analyze, illustrate, extend, and create numerous representations (words, numbers, tables, and graphs) of patterns, functions, and algebraic relations as modeled in practical situations.				
2.12.2 E/L Represent and solve problems using discrete structures including graphs and matrices, with and without technology. Ec 3.12.2; H 4.12.1; H 5.12.1	SE: 251-253, 254-258, 265-267, 268-276, 277-281, 282-294, 295-298, 299-301 TG: I 254, 265	SE: 3-5, 13, 321-325, 326-327, 329 #2, 331 #4, 341-344, 345-347, 348-351, 366	SE: 171-174, 179-186, 199 #7, 204 #2, 205 #5, 499-500 <i>On Your Own</i> 174 TG: E T190 M T500	SE: 3-6, 7-8, 9-11, 12-19, 81-86, 87-91, 91-94, 94-98 TG: E T5, T102
2.12.3 E/S Create and use different forms of a variety of equations, proportions, and/or formulas (e.g., I=PRT or R=I/PT), solving for the needed variable as necessary in given situations. H 3.12.4; H 4.12.1; S 1.12.2; S 1.12.4; S 20.12.1; S 23.12.2	SE: 135-136, 139-140, 154 #1, 359 #6, 360 #7, 361, 369 #2, 373 #2, 379 #2 <i>Checkpoint</i> 365	SE: 61 #4, 62 #7, 63-65, 66-74, 77 #3, 260 #3, 272 #1-#5 <i>Checkpoint</i> 252 <i>On Your Own</i> 399 #b TG: C 252	SE: 15-16, 18 #4d, 19-21, 29, 37-39, 42, 202 <i>Checkpoint</i> 27 TG: SS T27	SE: 423-424, 446 #5 <i>PUMP</i> 21 #6, 196 #3, 209 #6, 269 #6, 427 #10, 493 #6, 570 #6, 664 #6

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	Course 1	Course 2	Course 3	Course 4
2.12.4 I/S Add, subtract, multiply, and factor (1 st and 2 nd degree) polynomials , describing each step in the process and the connection between the algebraic process and the arithmetic process; use simple quadratic equations with integer roots to solve practical and mathematical problems. H 3.12.4; H 4.12.1; S 23.12.2	SE: 143 #4-#5, 150 #5, 153 #3 TG: A 144	SE: 266-270, 274-277, 278-279, 280-281, 283 #3, 285 #1-#2, 286 #3-#4, 288 #2, 315 #4b TG: I 278	SE: 196, 197-200, 201, 204-206, 210-211, 212-214, 220-221 TG: LO T208 M T207, T257	SE: 362-365, 382, 383-384, 385-390 <i>Organizing</i> 374-376 TG: L T441-T442 LO T441
2.12.5 E/S Model practical problems from everyday situations with a variety of models that includes matrices, translating among tabular, symbolic and graphical representations of functions, with and without technology. Ec 3.12.2; Ec3.12.3; Ec 3.12.4; Ec 6.12.6; G 1.12.3; H 3.12.4; H 4.12.1; S 1.12.2	SE: 142 #1, 143 #4, 147 #1, 148 #2, 149 #4, 150 #5, 156 #3, 172 #4, 174 #6, 188 #1	SE: 59-62, 63-65, 66 #1, 71 #2, 73 #3, 92 #6, 95 #4, 103 #4, 179 #1, 184 #1	SE: 171-174, 175-178, 179-186 TG: E T171, T175, T190 LO T170	SE: 3-6, 7-8, 9-11, 12-19, 81-86, 87-91, 91-94, 94-98 TG: E T5, T102
2.12.6 W/L Determine the domain and range of linear relations given a graph or a set of ordered pairs ; explain their importance in problem-solving situations. H 5.12.1	SE: 138 #2, 206 #3	SE: 287 #3	SE: 177-178, 179, 181, 438 TG: E T175	The domain and range of a function are determined. SE: 144 #3, 160-161, 412-414 <i>PUMP</i> 627 #7

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	Course 1	Course 2	Course 3	Course 4
2.12.7 Solve systems of two linear equations, both algebraically and graphically; use graphing calculators as a primary tool in solving these problems and to verify solutions found by other methods.	W/L SE: 227-233, 246 #3d TG: I 226 TN 230	SE: 59-62, 63-65, 66 #1, 67 #2-#3, 71 #2-#3, 73 #3, 77 #3, 99, 100 #9 Checkpoint 101	SE: 47-48, 49, 50-51, 56, 57, 59 TG: M 759	SE: 375 #2, 567 #2, 690 #4 PUMP 106 #3
Measurement				
Content Standard 3.0: To solve problems, communicate, reason, and make connections within and beyond the field of mathematics, students will use appropriate tools and techniques of measurement to determine, estimate, record, and verify direct and indirect measurements.				
3.12.1 Convert between customary and metric systems; convert among monetary systems.	I/L See Courses 3 and 4.	See Courses 3 and 4.	A comparison of meters to feet is given. SE: 25 Conversion between Fahrenheit and Celsius is made. SE: 202 #2	A conversion between Fahrenheit and Celsius is made on page SE: 456 #3
3.12.2 Select and use measurement tools, techniques, and formulas to calculate and compare rates, cost, distances, interest, temperatures, and weight/mass. S 2.12.1	I/S SE: 67 #4, 109, 117 #5, 132-136, 139, 216 #1 Checkpoint 131	SE: 404 #8, 409 #5, 541-542	SE: 26-27, 28-31, 32-35, 40-41, 44, 202 #2 TG: E T26 L T25	SE: 23-27, 29-31, 53-55, 81-86, 87-91, 91-94, 123-126 TG: E T22

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	Course 1	Course 2	Course 3	Course 4
3.12.3 I/S Distinguish and differentiate among the structures, language and uses of systems of measures (e.g., linear, square units, cubic units); justify and communicate the differences between accuracy, precision, error, and tolerance in measurement; describe how each of these can affect solutions found in problem situations. S 23.12.8	SE: Checkpoint 418 #e	SE: 213, 410 #2	SE: 25, 26-27, 28-31, 32-35, 426 #5a TG: E T26, T426 L T25	Area and volume formulas are compared on page: SE: 151 #3
3.12.4 I/L Use and interpret consumer data (e.g., amortization tables , tax tables, and compound interest charts) to make informed financial decisions related to practical applications such as budget. E 4.12.3; Ec 2.12.4; Ec 2.12.5; Ec 2.12.8; Ec 2.12.12	SE: 455-456, 457 #1, 459 #1-#2, 460 #1-#3, 465-466, 479 #4	SE: 18 #5, 24 #3, 31-32 #1, 103 #4, 192 #7, 197, 219, 284 #4, 511 #2, 512 #4	The following example can be used to generate a discussion on making informed financial decisions based on budget: SE: 123 #4b TG: T123 #4b	SE: 446 #5, 452 #5, 454 #5, 455, 649-653, 653-655 <i>Think About This Situation</i> 648
3.12.5 I/S Use relationships (e.g., proportions) and formulas (indirect measurement) to determine the measurement of unknown dimensions, angles, areas, and volumes to solve problems. S 2.12.1; S 23.12.4	SE: 361, 362-364, 374 #3-#4, 375 #5-#6, 376 #9, 377 #2, 378 #4, 382 #4, 397 #1 TG: I 362	SE: 395-399, 400-404, 406-411, 419-423 TG: CMT 399	SE: 26-27, 28-31, 32-35, 426, 435, 553	SE: 668-669 <i>Checkpoint</i> 670

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Spatial Relationships and Geometry				
Content Standard 4.0: To solve problems, communicate, reason, and make connections within and beyond the field of mathematics, students will identify, represent, explain, verify, and apply spatial relationships and geometric properties.				
4.12.1 Identify and use the properties of polygons (including interior and exterior angles) and elements of circles (e.g., angles, arcs, chords , secants and tangents) to solve practical problems. H 3.12.4	I/S SE: 383-388, 389-392, 395-401 Checkpoint 418 TG: C 389 I 390	SE: 81-84, 92 #5, 94 #5, 147 #1, 304-305, 428 #3	SE: 287, 291, 295-296, 298, 322-324, 329, 330-332, 333-339 Checkpoint 330 TG: M T289	SE: 119-122 PUMP 107 #8, 269 #8, 507 #8 TG: LO T651
4.12.5 Use coordinate geometry to graph linear equations, determine slopes of lines, identify parallel and perpendicular lines and find possible solutions to sets of equations; use algebraic techniques to solve problems determined by geometric relationships. H 5.12.1	I/S SE: 175, 182, 183 #2, 184, 186, 188 #1, 189 #4, 191 #3 Checkpoint 187 TG: O 175	SE: 81-84, 89 #4, 91 #2-#3, 92 #5, 94 #4-#5, 96 #3, 97-101, 102 #2, 108 #3 Checkpoint 90	SE: 48, 49, 56, 312-313, 328-330	SE: 375 #2
4.12.6 Use complementary and supplementary angles, congruent angles, vertical angles, angles formed when parallel lines are cut by a transversal, and angles in polygons to solve practical problems. H 3.12.4	W/S SE: 386-387, 397 #1 Checkpoint 389 On Your Own 389	SE: 371 #3a, 395-399, 421	SE: 279-281, 282-287, 290-291 TG: E T282	See Courses 1, 2, and/or 3.

CONTENT STANDARDS	PAGE REFERENCES			
	Course 1	Course 2	Course 3	Course 4
4.12.7 Apply the Pythagorean Theorem, its converse , properties of special right triangles, and right triangle trigonometry to solve practical problems. H 3.12.4	I/S SE: 362-364, 366-372, 416-417 <i>Checkpoint 365</i> TG: C 365 I 362	SE: 83 #6c, 290, 306-307 #5, 400-404, 405, 409 #3, 411 #5 <i>On Your Own 399</i>	SE: 26-27, 244-245 TG: LO T25	SE: 464 #1, 467, 470 #6, 549 #2a
4.12.8 Use tools, technology, and models to sketch, draw, and construct geometric figures in order to solve problems and to demonstrate the properties of geometric figures.	W/L SE: 333 #8, 341-344, 345-346, 347-354, 368 #1, 393-394 <i>Checkpoint 365</i> TG: C 365 E 333, 340-341	SE: 81-84, 99-100, 122 #2, 123 #5, 124 #1-#2, 129 #6, 152-153 #6, 164 #5 <i>Think About This Situation 81</i> TG: I 81	SE: 287, 288, 295-296, 317, 320, 321 TG: E T287	SE: 515-517, 525 #3, 529-530 <i>On Your Own 527</i> TG: LO T620 UO T617
4.12.9 Construct, justify and defend mathematical conclusions using logical, sequential, deductive reasoning supported by established mathematical principles. E 10.12.4	E/S SE: 264 #3, 274 #4 <i>Organizing 263 #3</i> <i>Think About This Situation 32</i>	SE: 22 #3, 56 #3, 71 #3, 72 #2, 98 #3, 108 #4, 121 #4, 126 #1c, 127 #3, 395 #1	SE: 241-243, 243-247, 261-265, 269-271, 272-278, 279-281, 282-287, 326-330 TG: E T266 LO T260	SE: 258, 259-264, 264-267, 273-274 TG: E T308 SS T312

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	Course 1	Course 2	Course 3	Course 4
Data Analysis				
Content Standard 5.0: To solve problems, communicate, reason, and make connections within and beyond the field of mathematics, students will collect, organize, display, interpret, and analyze data to determine statistical relationships and probability projections.				
5.12.1 Use calculators and computers to create and manipulate tables, graphs, and matrices to communicate statistical information; use the shape of graphs of normal distributions to compare and analyze information. G 3.12.4; G 4.12.1; G 7.12.3; H 2.12.2; H 2.12.3; S 22.12.2	I/L SE: 19-23, 24 #2, 35 #5, 105-106, 113-115 <i>Extending</i> 92-93 <i>Investigation</i> 66 TG: I 19 M 39 #1 TT 54	SE: 18 #5, 21 #4, 24 #3, 29 #6, 189 #3, 192 #6 <i>On Your Own</i> 40-41 <i>Master</i> 72, 73	SE: 140-143, 362-363, 363-371, 371-375, 375-383 TG: E T140-T142, T363-T364 L T363 LO T362	SE: 319-322 TG: E T376-T377
5.12.2 Design, conduct, analyze, and communicate the results of multi-stage probability experiments. H 5.12.1	I/L SE: 485-489, 491-497, 499-501, 502-504, 505-512, 513-518, 519-525, 526-528 <i>Think About This Situation</i> 498 TG: LOV 498	SE: 457-459, 460-461, 462-464, 466 #2, 468 #1, 469 #3, 470 #4, 479 #1, 481-482 #1 TG: I 457	SE: 405-410, 411, 411-415 TG: E T405	SE: 277-282, 282-289
5.12.3 Distinguish between and apply permutations and combinations using a variety of methods, including The Fundamental Counting Principle. H 5.12.1	W/L See Course 4.	See Course 4.	See Course 4.	SE: 216, 217-222, 222-231, 232-237 TG: E T271-T272, T274-T277 LO T269 UO T267

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<p>5.12.4 E/S Select and use the measures of central tendency such as mean, median, mode and variability including range, distribution and possible outliers that are appropriate for given situations. G 7.12.4; S 20.12.4</p>	<p>SE: 16-19, 31-34, 37, 38-46, 47-51, 52-54, 63-65 <i>Checkpoint 36</i> TG: I 31, 65</p>	<p>SE: 109, 462 #1a</p>	<p>SE: 347-350, 351-354, 355-361, 363-370 TG: E T351 LO T362</p>	<p>SE: 301-310, 311-315</p>
<p>5.12.5 E/S Analyze the validity of statistical conclusions noting various sources of bias, misuse, and abuse of data caused by a wide variety of factors including choices of scale, probability versus odds, inappropriate uses of measures of central tendency, inaccurate curve fitting and inappropriate uses of controls or sample groups. S 19.12.1; S 21.12.2; S 21.12.3; S 23.12.6</p>	<p>SE: 5 #4, 34, 44 #1, 59 #1, 70 #4 <i>Checkpoint 36</i> TG: C 65</p>	<p>SE: 511 #2c, 516 #1d, 519 #2</p>	<p>SE: 115, 116-120, 121-124, 124-127, 128-134 TG: LO T115</p>	<p>SE: 333-338, 338-344, 344-351 TG: E T391, T395</p>
<p>5.12.6 I/L Design, construct, analyze, and select an appropriate type of graph to represent data to communicate the results of statistical experiments (e.g., write a survey question and analyze and communicate the findings). S 22.12.2</p>	<p>SE: 3-6, 20 #1, 21 #5, 24-29, 44 #4, 45 #2, 54 #5, 60 #3 <i>Checkpoint 23</i> TG: C 23</p>	<p>SE: 492-493, 494 #4, 496 #2, 497 #3b, 502 #8, 503 #1, 507 #3, 508 #5, 509 #3 <i>Checkpoint 500</i></p>	<p>SE: 134 #3</p>	<p>SE: 277-282, 333-338, 338-344, 344-351 TG: E T391</p>

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Problem Solving				
Process Standard 6.0: Students will develop their ability to solve problems by engaging in developmentally appropriate problem-solving opportunities in which there is a need to use various approaches to investigate and understand mathematical concepts in order to: formulate their own problems; find solutions to problems from everyday situations; develop and apply strategies to solve a wide variety of problems; and integrate mathematical reasoning, communication and connections.				
6.1 Select, modify, develop, and apply strategies to solve a variety of mathematical and practical problems and to investigate and understand mathematical concepts. S 1.2.3; S 1.5.1; S 1.8.1; S 1.8.4; S 1.12.2; S 1.12.4; S 2.12.1; S 3.2.3; S 10.5.2; S 14.8.6; S 19.12.2; S 21.3.1	E/S SE: 113 #1, 117 #4-#5, 122 #2, 131 #8, 132 #1, 134 #4-#5, 139 #1-#3, 155 #2, 188 #1-#2, 189 #4	SE: 331 #4, 335-337, 341 #1, 350 #4, 403 #7, 404 #8, 406 #2, 410 #5 <i>On Your Own</i> 405 <i>Think About This Situation</i> 3	SE: 11-13, 30-31, 32-35, 64-68, 73, 234-239, 428-430, 494-497	SE: 32-35, 87-91, 115-119, 147-150, 217-222, 301-307, 361-365, 515-517, 579-588 TG: E T107-T108
6.2 Apply previous experience and knowledge to new problem-solving situations.	E/S SE: 120 #2, 136 #2, 162 #1, 172 #4, 530-545 <i>Reflecting</i> 119 #2-#3	SE: 83 #6c, 349 #3, 356 #3, 391 #3, 409 #4 <i>Reflecting</i> 335 #1	SE: 16-24, 40-45, 80-85, 234-239 <i>On Your Own</i> 14, 36, 68, 73, 229, 430	SE: 9-11, 37-40, 186-189, 368-372, 385-390, 428-433 <i>Looking Back</i> 74-77, 136-138, 210-212, 270-274
6.5 Verify, interpret, and evaluate results with respect to the original problem situation, determining an efficient strategy for the given situation. S 21.5.3; S 21.12.3	E/S SE: 113 #1, 117 #4-#5, 122 #2, 131 #8, 132 #1, 134 #4-#5, 139 #1-#3, 155 #2, 188 #1-#2, 189 #4	SE: 331 #4, 335-337, 341 #1, 350 #4, 403 #7, 404 #8, 406 #2, 410 #5 <i>On Your Own</i> 405 <i>Think About This Situation</i> 3	SE: 74-77, 226, 261-265, 279-282, 282-287 TG: E T64, T279	SE: 270-274, 354-356, 440-443 <i>Checkpoint</i> 149, 286, 305, 443 <i>Think About This Situation</i> 332

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	Course 1	Course 2	Course 3	Course 4
6.7 Apply multi-step, integrated, mathematical problem-solving strategies, persisting until a solution is found or until it is clear that no solution exists. S 19.12.2 E/S	SE: 113 #1, 117 #4-#5, 122 #2, 131 #8, 132 #1, 134 #4-#5, 139 #1-#3, 155 #2, 188 #1-#2, 189 #4	SE: 331 #4, 335-337, 341 #1, 350 #4, 403 #7, 404 #8, 406 #2, 410 #5 <i>On Your Own</i> 405 <i>Think About This Situation</i> 3	SE: 30-31, 40-45, 64-68, 73, 226-228, 234-239	SE: 91-94, 109-115, 136-169, 164-168, 366-368, 383-385, 390-395, 440-444, 448-450, 485-486
6.9 Generalize solutions and strategies from earlier problems to new problem situations. E/L	SE: 120 #2, 136 #2, 162 #1, 172 #4, 530-545 <i>Reflecting</i> 119 #2-#3	SE: 83 #6c, 349 #3, 356 #3, 391 #3, 409 #4 <i>Reflecting</i> 335 #1	SE: 36-39, 40-45, 57-62, 80-85, 211 <i>On Your Own</i> 49, 56, 179, 234, 287	SE: 123-126, 136-138, 164-168, 186-189, 270-274, 354-356, 368-372, 385-390, 428-433, 440-444
6.10 Interpret and solve a variety of mathematical problems by paraphrasing, identifying necessary and extraneous information, selecting and justifying efficient methods and/or strategies, and ensuring the answer is reasonable. E/S	SE: 113 #1, 117 #4-#5, 122 #2, 131 #8, 132 #1, 134 #4-#5, 139 #1-#3, 155 #2, 188 #1-#2, 189 #4	SE: 331 #4, 335-337, 341 #1, 350 #4, 403 #7, 404 #8, 406 #2, 410 #5 <i>On Your Own</i> 405 <i>Think About This Situation</i> 3	SE: 47-49, 49-51, 52-55, 57-62, 64-68, 68-73, 74-77, 175-178, 218-224, 234-239	SE: 41-43, 91-94, 109-115, 217-222, 241-245, 282-289, 407-411, 440-444
6.11 Apply combinations of proven strategies and previous knowledge to solve non-routine problems. E/L	SE: 120 #2, 136 #2, 162 #1, 172 #4, 530-545 <i>Reflecting</i> 119 #2-#3	SE: 83 #6c, 349 #3, 356 #3, 391 #3, 409 #4 <i>Checkpoint</i> 34 <i>Reflecting</i> 335 #1	SE: 43-45, 84-85, 185-186, 223-224, 239 <i>On Your Own</i> 243, 287	SE: <i>Looking Back</i> 74-77, 136-138, 210-212, 270-274, 354-356, 428-433, 508-511, 572-575, 642-645, 688-690
6.13 Use technology, including calculators, to solve problems and verify solutions. S 24.5.5; S 24.8.5 E/L	SE: 20 #1, 21 #2, 45-46, 84, 114 #2, 119 #3-#4, 148 #3, 174 #6, 215 <i>Think About This Situation</i> 121	SE: #11a, 41 #d, 44 #7c, 53 #6, 85 #7, 89 #5b, 96 #5, 99 #5, 113 #3a, 122 #2	SE: 26-27, 28-31, 32-35, 186, 195 #7, 199 #7, 239 <i>On Your Own</i> 229	SE: 74-75, 165 #4, 175 #5, 319-321, 508-509, 511 #9, 649-653, 658-661

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6.14 Use technology, including calculators, to investigate, define, and describe quantitative relationships such as patterns and functions. G 7.12.3; S 1.5.1; S 1.12.2; S 1.12.4; S 14.8.6; S 24.5.5; S 24.8.5	E/L SE: 19-23, 24 #2, 35 #5, 105-106, 113-115 <i>Extending</i> 92-93 <i>Investigation</i> 66 TG: I 19 M 39 #1 TT 54	SE: 18 #5, 21 #4, 24 #3, 29 #6, 189 #3, 192 #6 <i>On Your Own</i> 40-41 <i>Master</i> 72, 73	SE: 4, 207 #2, 210 #3, 232 #7-#8, 253-255, 296 #5, 446, 450 #3, 455 #4, 494-495 #1	SE: 29-31, 109-110, 155 #5, 161 #5, 288 #9, 649-653, 658-661
Mathematical Communication Process Standard 7.0: Students will develop their ability to communicate mathematically by solving problems in which there is a need to obtain information from the real world through reading, listening, and observing in order to: translate this information into a mathematical language and symbols; process this information mathematically; and present results in written, oral and visual formats.				
7.1 Discuss and exchange ideas about mathematics as a part of learning. E 10.2.3; E 10.3.3; E 10.5.3; E 10.3.1; E 10.5.1; E 10.12.1; S 23.5.2	E/L SE: 3-6, 9 #2, 11 #7, 12 #8, 63-64 <i>Checkpoint</i> 13, 65, 67, 78, 83	SE: 71 #3, 380 #1 <i>Checkpoint</i> 34, 78, 129, 133, 141, 143, 154, 156	Collaborative learning is stressed throughout the text. SE: <i>Checkpoint</i> 5, 13, 31, 51, 68, 139, 174, 374, 433 TG: UO T1A	SE: <i>Checkpoint</i> 35, 85, 114, 163, 244, 263, 305, 395, 433, 497
7.2 Use inquiry techniques (e.g., discussion, questioning, research, data gathering) to solve mathematical problems. E 4.2.3; E 10.2.2; E 10.3.2; E 10.5.2; E 10.8.2; E 11.2.1; E 11.3.1; E 11.5.1; E 11.8.1; E 11.12.1; E 11.2.2; S 1.5.1; S 1.8.1; S 1.8.4; S 1.12.4; S 10.5.2; S 14.8.6; S 21.3.1	E/L SE: 3-6, 29 #3, 93 #2 <i>Checkpoint</i> 83, 96, 101, 112, 115, 125 <i>Extending</i> 263 #1	SE: 180 #2, 206 #1, 361 #5, 380 #2 <i>Checkpoint</i> 34, 78, 129, 133, 141, 143	SE: 3-4, 11-13, 40-45, 64-68, 80-85, 106-114, 188-191, 201-207, 226-228, 279-281	SE: 115-119, 147-150, 217-222, 361-365, 368-372 <i>Extending</i> 47-49, 104-105, 423-425, 454-455

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7.3 Read expository text to learn about mathematics. E 1.8.3; E 1.12.3; E 2.12.3; E 4.8.1; E 4.8.2; E 4.8.3	I/L SE: 14, 30, 32, 412 #5, 424-425, 465, 524 #5	SE: 197, 198 #3, 203 #3, 357 #2, 361 #5	SE: 26-27, 28-30, 64-67, 124-127, 136-138, 209-211, 229-233, 282-287, 298-304, 326-330	SE: 23-26, 60-61, 119-121, 259-263, 333-337, 368-371, 390-394, 464-466, 579-587, 611-618
7.6 Interpret and solve word problems without the necessity of key words or phrases.	E/S SE: 113 #1, 117 #4-#5, 122 #2, 131 #8, 132 #1, 134 #4-#5, 139 #1-#3, 155 #2, 188 #1-#2, 189 #4	SE: 331 #4, 335-337, 341 #1, 350 #4, 403 #7, 404 #8, 406 #2, 410 #5 <i>On Your Own</i> 405 <i>Think About This Situation</i> 3	SE: 11-13, 40-41, 44, 47-48, 49-51, 57-59, 80-83 <i>On Your Own</i> 68, 73, 77	SE: 12-19, 41-45, 99-101, 127-129, 232-233, 416-419, 428-431, 508-510
7.9 Model and explain mathematical relationships using oral, written, graphical, and algebraic methods. E 5.8.1; E 5.8.2; E 6.8.2; E 11.8.5; E 11.12.5; S 1.12.2; S 1.12.4; S 14.8.6; S 20.12.1; S 22.8.2; S 22.12.2	E/S SE: 220, 229 #1-#2, 233-234, 240 #4, 241 #2 <i>Organizing</i> 368 <i>Reflecting</i> 232	SE: 71 #3, 161-162 #4 <i>Checkpoint</i> 78, 84, 86, 133, 141, 154, 156, 218	SE: 6-10, 11-14, 16-18, 47-48, 49-51, 57-59, 80-81 <i>On Your Own</i> 5, 56, 73	SE: 81-86, 87-91, 91-94, 94-98, 147-149, 198-202, 301-307, 407-412, 523-527, 547-551
7.10 Evaluate the effectiveness of written and oral presentations of mathematics. S 21.5.3; S 23.5.2	I/L SE: 7 #1, 9 #3, 10 #6, 11 #7, 33 #2, 92 #2, 174 #6 <i>Checkpoint</i> 6	SE: 73 #3, 105 #2, 401, 422 #5, 491 #3	SE: 128-130 <i>Checkpoint</i> 95, 127, 191, 214, 257, 281, 433, 465, 485	SE: <i>Checkpoint</i> 27, 63, 85, 139, 146, 213, 395, 415, 433, 463
7.11 Make conjectures and present arguments in discussions of mathematical ideas. S 21.5.3; S 23.5.3	E/L SE: 264 #3, 274 #4 <i>Organizing</i> 263 #3 <i>Think About This Situation</i> 32	SE: 22 #3, 56 #3, 71 #3, 72 #2, 98 #3, 108 #4, 121 #4, 126 #1c, 127 #3, 395 #1	SE: 269-271, 272-273, 285-286, 291, 295, 317, 324 #3, 328 #4 <i>On Your Own</i> 269, 332	SE: 88 #3-#4, 258, 428-431

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7.14 I Explain and evaluate thinking about mathematical ideas and solutions based on the role of definitions, properties, common rules, and symbols in solving problems.	SE: 9 #3, 10 #6, 11 #7, 33 #2, 92 #2, 174 #6 <i>Checkpoint</i> 101, 146, 156, 187	SE: 71 #3, 73 #3, 105 #2, 380 #1, 401, 422 #5 <i>Checkpoint</i> 34, 78, 84, 86	SE: <i>Checkpoint</i> 5, 55, 95, 217, 257, 367, 371, 419, 465, 493	SE: 74-77, 428-433 <i>Checkpoint</i> 118, 172, 213, 231, 433, 521, 558 <i>Think About This Situation</i> 159
7.15 E/L Use everyday language to explain thinking about strategies and solutions to mathematical problems. S 21.5.3; S 23.5.3	SE: 3-6, 9 #2, 11 #7, 12 #8, 63-64 <i>Checkpoint</i> 13, 65, 67, 78, 83	SE: 71 #3, 380 #1 <i>Checkpoint</i> 34, 78, 129, 133, 141, 143, 154, 156	SE: <i>Checkpoint</i> 16, 27, 31, 55, 127, 191, 257, 371, 419, 433	SE: <i>Checkpoint</i> 40, 59, 97, 114, 222, 244, 249, 372, 433, 471
7.16 E/S Express mathematical ideas and use them to define, compare, and solve problems orally and in writing.	SE: 3-6, 9 #2, 11 #7, 12 #8, 63-64 <i>Checkpoint</i> 13, 65, 67, 78, 83	SE: 71 #3, 380 #1 <i>Checkpoint</i> 34, 78, 129, 133, 141, 143, 154, 156	SE: 26-27, 28-31, 32-35, 40-41, 47-48, 52-56, 57-59, 80-81 <i>On Your Own</i> 73, 77	SE: 65-71, 99-105, 150-155, 202-207, 344-351 <i>Checkpoint</i> 172, 213, 395, 415, 497
7.17 E/L Use mathematical notation to communicate and explain mathematical situations. S 21.2.1	SE: 63-65, 66-67, 73 #3, 85 #1-#2, 116 #2, 132 #1, 242 #3 <i>Checkpoint</i> 115, 125, 146	SE: 71 #3, 395 #1, 401 <i>Checkpoint</i> 34, 84, 86	SE: 78-79, 188-190, 226-228, 247-249 <i>Checkpoint</i> 214, 217, 281 <i>On Your Own</i> 191-192, 197 <i>Think About This Situation</i> 208	SE: 23-29, 32-35, 60-64, 87-91, 143-147, 159-164, 258-264, 307-310, 390-395, 444-448

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Mathematical Reasoning				
Process Standard 8.0: Students will develop their ability to reason mathematically by solving problems in which there is a need to investigate significant mathematical ideas and construct their own learning in all content areas in order to justify their thinking; reinforce and extend their logical reasoning abilities; reflect on and clarify their own thinking; and ask questions to extend their thinking.				
8.3 Construct, justify, and defend mathematical conclusions using logical arguments, in situations related to mathematics, science, and technology. E 10.12.4; G 7.12.4; S 1.8.1; S 1.8.4; S 1.12.4; S 14.8.6	I/L SE: 264 #3, 274 #4 <i>Organizing</i> 263 #3 <i>Think About This Situation</i> 32	SE: 22 #3, 56 #3, 71 #3, 72 #2, 98 #3, 108 #4, 121 #4, 126 #1c, 127 #3, 395 #1	SE: 240, 241-243, 243-247, 247-252, 261-265, 312-313, 326-330 TG: E T279 LO T240, T260	SE: 258, 259-264, 264-267, 273-274 <i>Checkpoint</i> 228 TG: E T308 SS T312
8.4 Use patterns and relationships to analyze mathematical situations; draw logical conclusions about mathematical problems. Ec 3.8.2; Ec 3.8.3; Ec 9.8.4; Ec 3.12.1; Ec 3.12.2; Ec 3.12.3; Ec 3.12.4; Ec 6.12.6; G 7.12.4; S 17.3.2	E/S SE: 337 #4, 389-392, 402-404, 404-407, 409 #3, 421 #2, 427, 432-433 #3, 434 #4, 436 #1	SE: 43 #5, 171-173, 177-178, 179-185, 187, 190 #5, 191-194, 212-214 <i>On Your Own</i> 215-216, 219	SE: 3-5, 505, 506-510, 511-515, 515-518, 519-529, 531-533 TG: LO T505	SE: 29-32, 109-115, 115-119, 168-172, 174 #4, 198-202, 436-440, 451 #1 <i>On Your Own</i> 189 TG: E T141
8.5 Follow a logical argument and judge its validity. E 4.8.4; E 4.12.4	E/L SE: 264 #3, 274 #4 <i>Organizing</i> 263 #3 <i>Think About This Situation</i> 32	SE: 22 #3, 56 #3, 71 #3, 72 #2, 98 #3, 108 #4, 121 #4, 126 #1c, 127 #3, 395 #1	SE: 217, 260, 261-265, 266-271, 272-278, 279-281, 288-291 <i>On Your Own</i> 201 TG: E T279 UO T259	SE: 232-233 #3, 259-264, 264-267, 273-274 TG: E T308 SS T312
8.7 Recognize and apply deductive and inductive reasoning in both concrete and abstract contexts.	E/S SE: 264 #3, 274 #4 <i>Organizing</i> 263 #3 <i>Think About This Situation</i> 32	SE: 22 #3, 56 #3, 71 #3, 72 #2, 98 #3, 108 #4, 121 #4, 126 #1c, 127 #3, 395 #1	SE: 267-271, 272-278, 279-282, 285-287, 288-289, 290, 295-296, 304-307 TG: E T279 LO T260	SE: 258, 259-264

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8.8 Ask questions to reflect on, clarify, and extend thinking. E/L	SE: <i>Checkpoint</i> 404, 407, 423, 426, 442, 447, 456, 464 <i>Think About This Situation</i> 455, 461	SE: 42 #2, 43 #5, 54 #1, 61 #5, 71 #3, 73 #3 <i>Checkpoint</i> 34, 65 <i>On Your Own</i> 45 <i>Think About This Situation</i> 171	Encourage students to ask questions as topics are introduced and completed. SE: 32-35, 47-48, 68-72, 78-79, 175-178, 209-212, 226-228, 298-303, 351-354, 491-494	Questions will be asked as work is completed. SE: 60-64, 81-86, 109-115, 147-150, 259-264, 307-310, 368-372, 385-390, 407-412, 481-484
8.9 Review and refine the assumptions and steps used to derive conclusions in mathematical arguments. I/L	SE: 264 #3, 274 #4 <i>Organizing</i> 263 #3 <i>Think About This Situation</i> 32	SE: 22 #3, 56 #3, 71 #3, 72 #2, 98 #3, 108 #4, 121 #4, 126 #1c, 127 #3, 395 #1	SE: 266-271, 272-278, 279-282, 282-287, 288-289, 290, 295-296, 304-309, 310-311, 312-313	SE: <i>Checkpoint</i> 114, 146, 163, 213, 228, 244, 307, 337, 395, 415
8.10 Construct valid arguments; make and test conjectures about algebraic and geometric properties based on mathematical principles. E 10.12.4 I/L	SE: 264 #3, 274 #4 <i>Organizing</i> 263 #3 <i>Think About This Situation</i> 32	SE: 22 #3, 56 #3, 71 #3, 72 #2, 98 #3, 108 #4, 121 #4, 126 #1c, 127 #3, 395 #1	SE: 266-271, 272-273, 285-286, 291, 295, 317, 324 #3, 328 #4 <i>On Your Own</i> 269, 332	SE: 88 #3-#4, 258, 259-264, 428-431
8.11 Determine relevant, irrelevant, and/or sufficient information to solve mathematical problems. E/S	SE: 113 #1, 117 #4-#5, 122 #2, 131 #8, 132 #1, 134 #4-#5, 139 #1-#3, 155 #2, 188 #1-#2, 189 #4	SE: 331 #4, 335-337, 341 #1, 350 #4, 403 #7, 404 #8, 406 #2, 410 #5 <i>On Your Own</i> 405 <i>Think About This Situation</i> 3	SE: 25, 26-27, 28-31, 32-36, 40-41, 44-45, 57-58, 64-68, 68-71, 73	SE: 41-45, 99-101, 127-129, 232-233, 416-419, 428-431, 508-510
Mathematical Connections				
Process Standard 9.0: Students will develop the ability to make mathematical connections by solving problems in which there is a need to view mathematics as an integrated whole, identifying relationships between context strands, and integrating mathematics with other disciplines, allowing the flexibility to approach problems in a variety of ways within and beyond the field of mathematics.				
9.1 Link new concepts to prior knowledge. E/L	SE: 400 #5, 494 #1, 495 #2, 500 #4, 509 #1, 524 #5, 529-545 <i>Extending</i> 412 #1	SE: 83 #6c, 90 #1, 358 #4, 410 #1, 447 #3, 468 #4	SE: 16-24, 40-45, 80-85, 234-239 <i>On Your Own</i> 14, 36, 68, 73, 229, 430	SE: 9-11, 37-40, 186-189, 368-372, 385-390, 428-433 <i>Looking Back</i> 74-77, 136-138, 210-212, 270-274

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9.2 Use mathematical ideas from one area of mathematics to explain an idea from another area of mathematics. E/S	SE: 400 #5, 494 #1, 495 #2, 500 #4, 509 #1, 524 #5, 529-545 <i>Extending</i> 412 #1	SE: 290-293, 358 #4, 400-404, 410 #3, 468 #2 <i>Checkpoint</i> 399	SE: 26-27, 28-31, 32-36, 243-246, 247-249, 298-303, 304-309, 326-330	SE: 32-35, 87-91, 115-119, 217-222, 301-307, 361-365, 515-517, 579-588
9.3 Use models to explain the relationship of concepts to procedures. S 1.5.1; S 1.8.1; S 1.12.2; S 1.8.4; S 1.12.4; S 10.5.2; S 14.8.6; S 20.5.1 E/S	SE: 220, 229 #1-#2, 233-234, 240 #4, 241 #2, 468 #1-#2, 487 #3, 490 <i>Organizing</i> 368 <i>Reflecting</i> 232	SE: 71 #3, 83-84 #6, 161-162 #4, 410 #1, 431 #5, 432-435 <i>Checkpoint</i> 84, 133, 141, 154	SE: 26-27, 47-48, 171-174, 287, 326-329, 330-332, 338-339 <i>On Your Own</i> 73, 77 <i>Think About This Situation</i> 208	SE: 81-86, 87-91, 91-94, 94-98, 198-202, 407-412, 523-527, 527-534, 547-551
9.4 Use the connections among mathematical topics to develop multiple approaches to problems. S 20.8.1 I/L	SE: 400 #5, 494 #1, 495 #2, 500 #4, 509 #1, 524 #5, 529-545 <i>Extending</i> 412 #1	SE: 290-293, 358 #4, 400-404, 410 #3, 468 #2 <i>Checkpoint</i> 399	SE: 26-27, 28-31, 32-36, 229-233, 237, 238, 239	SE: 441 #2, 443 #9
9.6 Use and analyze the connections between Mathematics and other disciplines. Ec 2.8.2; Ec 2.12.4; Ec 2.12.8; H 2.8.3; H 2.12.3; S 2.12.1; S 14.12.5 I/L	SE: 142, 339 #4, 412 #4, 445-467 <i>Reflecting</i> 29 #1, 72 #3, 138 #3, 400 #3 <i>Think About This Situation</i> 484	SE: 24-25 #4, 56 #3, 75-76 #1, 91 #4, 133 #1, 283 #2, 307 #5, 308 #2, 315-316, 335 #3	SE: 7-9, 385-393, 423-427, 469-472, 480-483, 496-497, 503-504, 538-539	SE: 91-94, 109-115, 168-172 TG: E T114-T115, T213

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9.7 Apply mathematical thinking and modeling to solve problems that arise in other disciplines (e.g., rhythm in music and motion in science). S 1.5.1; S 1.8.1; S 1.12.2; S 1.8.4; S 1.12.4; S 10.5.2; S 14.8.6; S 19.12.2	E/L SE: 142, 412 #4, 445-467 <i>Reflecting</i> 29 #1, 72 #3, 138 #3, 400 #3 <i>Think About This Situation</i> 484	SE: 24-25 #4, 56 #3, 75-76 #1, 91 #4, 133 #1, 283 #2, 307 #5, 308 #2, 315-316, 335 #3	SE: 7-9, 385-393, 423-427, 469-472, 480-483, 496-497, 503-504, 538-539	SE: 91-94, 109-115, 168-172 TG: E T114-T115, T213
9.8 Identify, explain, and use mathematics in everyday life. Ec 2.3.2; Ec 2.12.12; Ec 5.2.1; Ec 5.3.1; S 24.12.2	I/S SE: 48-50, 51, 69 #3, 81 #2, 92 #6, 119-120 #1, 138 #4, 367 #3 <i>Extending</i> 61 #1 <i>Reflecting</i> 29	SE: 55 #1, 67 #3, 72 #1, 92 #6, 183 #1, 331 #4, 377 #1-#2, 380 #2, 389 #1	SE: 6-10, 11-14, 18, 20, 47-48, 116-121, 262 #2, 341 #3, 453 #1, 479 #5	SE: 12-14, 80, 127-129, 150 #1, 416-419, 629-635

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