



Algebra 2

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STANDARDS	PAGE REFERENCES
Grade 10	
Number and Operations	
1. Understand numbers, ways of representing numbers, relationships among numbers and number systems	
A. Read, write and compare numbers	
B. Represent and use rational numbers	
use real numbers to solve problems MA 1 3.4 V.1.a	This standard can be met throughout the textbook. See the following specific examples. Student Edition: 11-17, 138-144, 402-406, 408-414, 415-421, 465-471, 509-517, 544-549, 848-852 <i>Graphing Calculator Lab</i> 252, 346-347 Teacher Wraparound Edition: AE 12-15, 139-140, 403-404, 409-412, 416-418, 466-467, 512-514, 545-547, 849-850
C. Compose and decompose numbers	
use a variety of representations to demonstrate an understanding of very large and very small numbers MA 5 3.6 IX.a & d	Student Edition: 315-317, 330 #52 <i>Mid-Chapter Quiz</i> 348 #4 <i>Study Guide and Review</i> 375 #15 Teacher Wraparound Edition: AE 315 #5

STANDARDS	PAGE REFERENCES
<p>D. Classify and describe numeric relationships</p> <p>2. Understand meanings of operations and how they relate to one another</p> <p>A. Represent operations</p> <p>B. Describe effects of operations</p> <p>C. Apply properties of operations</p>	
<p>apply <u>properties of exponents</u> to simplify expressions or solve equations</p> <p>MA 4 1.6,1.10</p> <p>VIII.c & d</p>	<p>Student Edition: 312-317, 320-324, 325-330 <i>Practice Test</i> 379 #1-#6 <i>Standardized Test Practice</i> 380 #1, #4 <i>Study Guide and Review</i> 375</p> <p>Teacher Wraparound Edition: A 318; AE 313-315, 321-322, 326-327</p>
<p>D. Apply operations on real and complex numbers</p> <p>apply operations to real numbers, using mental computation or paper-and-pencil calculations for simple cases and technology for more complicated cases</p> <p>MA 1,4,5 1.4,3.4</p> <p>V.a, VIII.d, IX.6</p>	<p>This standard can be met throughout the textbook. See the following specific examples.</p> <p>Student Edition: 6-10, 315 Example 5, 402-406, 408-414, 500 Example 3 <i>Prerequisite Skills</i> 641 #66-#68, 709 #62-#67, 846 #54-#57 <i>Quick Check</i> 5 #1-#22 <i>Standardized Test Practice</i> 55 #1-#3, #11-#12 <i>Study Guide and Review</i> 50 1-1, 432 7-4, 433 7-5</p> <p>Teacher Wraparound Edition: AE 7-8, 403-404, 409-412; PAP 10</p>
<p>3. Compute fluently and make reasonable estimates</p> <p>A. Describe or represent mental strategies</p> <p>B. Develop and demonstrate fluency</p> <p>C. Compute problems</p> <p>D. Estimate and justify solutions</p>	
<p>judge the reasonableness of numerical computations and their results</p> <p>MA 1 3.8</p> <p>V.a</p>	<p>Student Edition: 87-88 Example d, 148-149 Example 4, 298 #10, 370 Example 2, 372 #33, 482 Example 4, 485 #32, 500 Study Tip, 503 #11, 529 Example 3, 623 Example 2 <i>Reading Math</i> 319 #8</p> <p>Teacher Wraparound Edition: DI 522; TNT 29, 501</p>

STANDARDS	PAGE REFERENCES
E. Use proportional reasoning	
<p>solve problems involving proportions MA 1,4 3.3 V.a, VIII.e</p>	<p>Student Edition: 463 #67-#70, 465-471, 478 #40, 486 #47 <i>Mid-Chapter Quiz</i> 472 #20-#25 <i>Practice Test</i> 493 #17-#23 <i>Prerequisite Skills</i> 879 Example 2, 880 <i>Quick Check</i> 441 #11-#20 <i>Standardized Test Practice</i> 494-495 #2, #12 <i>Study Guide and Review</i> 491 8-4 Teacher Wraparound Edition: AE 466-467</p>
Algebraic Relationships	
1. Understand patterns, relations and functions	
A. Recognize and extend patterns	
B. Create and analyze patterns	
<p>generalize patterns using <u>explicitly</u> or <u>recursively</u> defined functions MA 4 1.6,3.5 VIII.1.b</p>	<p>Student Edition: 622-628, 629-635, 636-641, 643-649, 658-662 <i>Algebra Lab</i> 663 <i>Practice Test</i> 679 <i>Spreadsheet Lab</i> 657 <i>Standardized Test Practice</i> 680 #2-#5, #11 <i>Study Guide and Review</i> 675-677 Teacher Wraparound Edition: A 628; AE 623-625, 630-632, 637-638, 644-646, 659-660; PAP 628, 635, 641, 662</p>
C. Classify objects and representations	
<p>compare and contrast various forms of <u>representations</u> of patterns MA 4 1.6 VIII.a & h</p>	<p>Student Edition: <i>Algebra Lab</i> 663 #2-#3 <i>Standardized Test Practice</i> 230 #2</p>

STANDARDS	PAGE REFERENCES
D. Identify and compare functions	
<p>understand and compare the properties of <u>linear</u>, <u>exponential</u> and <u>quadratic</u> functions (include domain and range)</p> <p>MA 4 1.6,3.6 VIII.b & c</p>	<p>Student Edition: 58-64, 66-70, 236-243, 286-292, 498-506 <i>Graphing Calculator Lab</i> 78, 284-285 <i>Study Guide and Review</i> 107, 303 5-1, 306 5-7, 553 9-1</p> <p>Teacher Wraparound Edition: A 506; AE 59-60, 67-68, 237-239, 287-289, 499-502; DI 288; PAP 70</p>
E. Describe the effects of parameter changes	
<p>describe the effects of <u>parameter changes</u> on <u>quadratic</u> and <u>exponential</u> functions</p> <p>MA 4 1.6,4.1 VIII.i</p>	<p>Student Edition: 286-292, 500 Example 2 <i>Graphing Calculator Lab</i> 284-285, 499 <i>Standardized Test Practice</i> 308-309 #4, #9</p> <p>Teacher Wraparound Edition: AE 287-289, 500 #2</p>
2. Represent and analyze mathematical situations and structures using algebraic symbols	
A. Represent mathematical situations	
<p>use <u>symbolic algebra</u> to represent and solve problems that involve quadratic relationships, including <u>recursive</u> relationships</p> <p>MA 4,6 1.6,3.1 VIII.c & d, X.h</p>	<p>Student Edition: 236-243, 246-251, 253-258, 268-275, 276-282, 286-292, 294-301 <i>Graphing Calculator Lab</i> 252, 293 <i>Mid-Chapter Quiz</i> 267 <i>Practice Test</i> 307 <i>Standardized Test Practice</i> 308-309 #3, #7, #12 <i>Study Guide and Review</i> 303-306</p> <p>Teacher Wraparound Edition: AE 239 #4, 247-248, 254-255, 269-272, 277-278, 296-297</p>
B. Describe and use mathematical manipulation	
<p>describe and use algebraic manipulations, including factoring and rules of integer exponents</p> <p>MA 4 3.1,4.1 VIII.a & d</p>	<p>Student Edition: 14 Example 5, 254 Example 2, 312-317, 320-324, 325-330, 349-351, 442-449, 450-456</p> <p>Teacher Wraparound Edition: A 48, 318; AE 14 #5, 254 #2, 313-315, 321-322, 326-327, 350-351, 443-446, 451-453</p>

STANDARDS	PAGE REFERENCES
C. Utilize equivalent forms	
use and solve equivalent forms of equations and inequalities (piece-wise and quadratic) MA 4 1.6,3.4 VIII.d	Student Edition: 20-26, 27-31, 33-39, 41-48, 97-100, 253-258, 268-275, 294-300 Teacher Wraparound Edition: A 101, 301; AE 20-22, 28-29, 34-36, 42-44, 97-98, 255, 269-272, 295-297; PAP 21, 39
D. Utilize systems	
use and solve systems of linear equations or inequalities with 2 variables MA 4 1.6 VIII.b & d	Student Edition: 116-122, 123-129, 130-135 <i>Graphing Calculator Lab</i> 136 <i>Mid-Chapter Quiz</i> 137 <i>Practice Test</i> 157 #1-#10 <i>Standardized Test Practice</i> 158-159 #1, #3-#8, #10-#11 <i>Study Guide and Review</i> 154, 155 3-3 Teacher Wraparound Edition: A 129; AE 117-119, 124-126, 131-132; PAP 135; T 123
3. Use mathematical models to represent and understand quantitative relationships	
A. Use mathematical models	
identify quantitative relationships and determine the type(s) of functions that might model the situation to solve the problem MA 4 1.6,3.6 VIII.c	Student Edition: 86-91 <i>Graphing Calculator Lab</i> 92-94, 252, 293 #1, 346-347, 518-519, 551 #2 <i>Reading Math</i> 65 <i>Study Guide and Review</i> 109 Teacher Wraparound Edition: AE 87-88; PAP 91
4. Analyze change in various contexts	
A. Analyze change	
analyze quadratic functions by investigating rates of change, intercepts and zeros MA 4 1.6,4.1 VIII.a & c	Student Edition: 236-243, 246-251 <i>Mid-Chapter Quiz</i> 267 #1, #5 <i>Study Guide and Review</i> 303 Teacher Wraparound Edition: AE 237, 247-248

STANDARDS	PAGE REFERENCES
Geometric and Spatial Relationships	
1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships	
A. Describe and use geometric relationships	
<p>use inductive and deductive reasoning to establish the validity of geometric <u>conjectures</u>, proved theorems and critique arguments made by others</p> <p>MA 2 3.5 VI.d</p>	<p>Student Edition: 214 #40-#41 Making and testing conjectures about graphs can be found on the following pages:</p> <p>Student Edition: 191 #44, 462 #49 <i>Graphing Calculator</i> 829 #3-#4 <i>Graphing Calculator Lab</i> 399 #3, 824 #4</p>
B. Apply geometric relationships	
<p>apply relationships among surface areas and among volumes of <u>similar objects</u></p> <p>MA 2 3.6 VI.c & I</p>	<p>Similar figures can be found on the following pages:</p> <p>Student Edition: <i>Prerequisite Skills</i> 879-880</p>
C. Compose and decompose shapes	
2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems	
A. Use coordinate systems	
<p>make conjectures and solve problems involving 2-dimensional objects represented with Cartesian coordinates</p> <p>MA 2 3.6,4.1 VI.f</p>	<p>The Cartesian coordinate plane can be found on the following pages:</p> <p>Student Edition: 58-64 <i>Study Guide and Review</i> 107 2-1</p> <p>Teacher Wraparound Edition: AE 59-60</p>

STANDARDS	PAGE REFERENCES
3. Apply transformations and use symmetry to analyze mathematical situations	
A. Use transformations on objects	
use and apply constructions to represent translations, reflections, rotations, and dilations of objects MA 2 1.10 VI.b	Translations, reflections, rotations, and dilations can be found on the following pages: Student Edition: 185-191, 200 #44-#45, 207 #39-#40, 214 #37-#41, 829-836 <i>Mid-Chapter Quiz</i> 193 #15-#16, 847 #6-#10 <i>Practice Test</i> 229 #16-#17, 871 #1-#4 <i>Standardized Test Practice</i> 230 #1 <i>Study Guide and Review</i> 226 4-4, 868 14-2 Teacher Wraparound Edition: A 836; AE 186-188, 830-833; DI 833; PAP 192
B. Use transformations on functions	
translate, dilate and reflect quadratic and exponential <u>functions</u> MA 4 3.1 VIII.i	Student Edition: 286-292 <i>Graphing Calculator Lab</i> 284-285, 499 <i>Practice Test</i> 307 #20-#22 <i>Standardized Test Practice</i> 308 #1, #4 <i>Study Guide and Review</i> 306 5-7 Teacher Wraparound Edition: AE 287-289
C. Use symmetry	
identify types of symmetries of 2- and 3-dimensional figures MA 2 1.6,1.10 VI.f	Symmetry of parabolas can be found on the following pages: Student Edition: 237-238 <i>Study Tip</i> 238
4. Use visualization, spatial reasoning and geometric modeling to solve problems	
A. Recognize and draw three-dimensional representations	
draw representations of 3-dimensional geometric objects using a variety of tools MA 2 1.4 VI.a	Drawing models in three dimensions can be found on the following page: Teacher Wraparound Edition: I 149

STANDARDS	PAGE REFERENCES
B. Draw and use visual models	
draw or use <u>visual models</u> to represent and solve problems MA 2 3.1 VI.b & i	Student Edition: <i>Algebra Lab</i> 13, 262, 270, 321, 624, 703 <i>Graphing Calculator Lab</i> 78, 97 <i>Standardized Test Practice</i> 55 #8, 113 #7, 309 #11, 558 #1, 753 #9 Teacher Wraparound Edition: DI 140, 254, 513, 692, 762, 808, 823; I 149
Measurement	
1. Understand measurable attributes of objects and the units, systems and processes of measurement	
A. Determine unit of measurement	
B. Identify equivalent measures	
C. Tell and use units of time	
D. Count and compute money	
2. Apply appropriate techniques, tools and formulas to determine measurements	
A. Use standard or non-standard measurement	
B. Use angle measurement	
solve problems of angle measure of parallel lines cut by a transversal MA 2 3.1,3.4 VI.f & i	Student Edition: 764 Study Tip
C. Apply geometric measurements	
determine the surface area and volume of geometric figures, including cones, spheres, and cylinders MA 2 1.10,3.4 VI.i	Student Edition: 17 #71, 26 #79, 244 #93, 367 #42, 372 #30-#31 <i>Check Your Progress</i> 8 <i>Mixed Problem Solving</i> 926 #5 <i>Preparing for Standardized Tests</i> 951 #21 <i>Standardized Test Practice</i> 381 #7, 559 #6, 681 #9, 753 #11, 819 #14
D. Analyze precision	
analyze effects of computation on <u>precision</u> MA 2 1.7, 3.8 VI.k	Student Edition: 762 Study Tip

STANDARDS	PAGE REFERENCES
E. Use relationships within a measurement system	
Data and Probability	
1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them	
A. Formulate questions	
formulate questions, design studies and collect data about a characteristic MA 3 1.2 VII.a	Student Edition: <i>Algebra Lab</i> 88, 734, 740 <i>Graphing Calculator Lab</i> 293, 347 #12-#14, 551 Teacher Wraparound Edition: PAP 91
B. Classify and organize data	
C. Represent and interpret data	
select, create and use appropriate graphical representation of data MA 6 1.8,3.6 X.b	Student Edition: 86-91, 341-342 Example 4 <i>Algebra Lab</i> 734 #1 <i>Graphing Calculator Lab</i> 92-94, 252, 293, 346-347, 518-519, 551 #4 <i>Spreadsheet Lab</i> 168 <i>Standardized Test Practice</i> 113 #11b Teacher Wraparound Edition: PAP 91
2. Select and use appropriate statistical methods to analyze data	
A. Describe and analyze data	
apply statistical concepts to solve problems and distinguish between a statistic and a parameter MA 3 1.10,3.4 VII.g	Student Edition: 86-91, 717-723 <i>Algebra Lab</i> 734 <i>Graphing Calculator Lab</i> 92-94 <i>Practice Test</i> 111 #27-#29 <i>Standardized Test Practice</i> 752 #1, #3 <i>Study Guide and Review</i> 109, 748 12-6 Teacher Wraparound Edition: AE 87-88, 718; PAP 91, 723

STANDARDS	PAGE REFERENCES
B. Compare data representations	
given <u>one-variable quantitative</u> data, display the distribution and describe its shape MA 3 1.8 VII.d & i	Student Edition: 724-728 Teacher Wraparound Edition: AE 725
C. Represent data algebraically	
display and analyze <u>bivariate</u> data where one variable is <u>categorical</u> and the other is numerical MA 3 1.6 VII.e	Displaying and analyzing bivariate data can be found on the following pages: Student Edition: 86-91 <i>Graphing Calculator Lab</i> 92-94 <i>Practice Test</i> 111 #27-#29 <i>Study Guide and Review</i> 109 Teacher Wraparound Edition: AE 87-88; PAP 91
3. Develop and evaluate inferences and predictions that are based on data	
A. Develop and evaluate inferences	
describe how sample statistics reflect the values of population parameters and use <u>sampling distributions</u> as the basis for <u>informal inference</u> MA 3 3.5 VII.a	Student Edition: 741-744 <i>Study Guide and Review</i> 750 Teacher Wraparound Edition: A 743; AE 742; DI 742; T 741
B. Analyze basic statistical techniques	
4. Understand and apply basic concepts of probability	
A. Apply basic concepts of probability	
describe the concepts of <u>sample space</u> and <u>probability distribution</u> MA 3 4.1 VII.e	Student Edition: 684, 699-700, 724-728 <i>Study Guide and Review</i> 746 12-1 and 12-3, 748 12-7 Teacher Wraparound Edition: A 728; AE 699, 725; FMC 725; PAP 702

STANDARDS	PAGE REFERENCES
<p>B. Use and describe compound events</p>	
<p>use and describe the concepts of <u>conditional probability</u> and <u>independent events</u> MA 6 1.10,4.1 X.d</p>	<p>Student Edition: 684-689, 703-709 <i>Mid-Chapter Quiz</i> 716 #1-#4, #13-#16 <i>Standardized Test Practice</i> 752-753 #5, #12 <i>Study Guide and Review</i> 746 12-1, 747 12-4 Teacher Wraparound Edition: A 689, 709; AE 685-686, 704-706; PAP 689, 707; TNT 707</p>
<p>Grade 11</p>	
<p>Number and Operations</p>	
<p>1. Understand numbers, ways of representing numbers, relationships among numbers and number systems</p>	
<p>A. Read, write and compare numbers</p>	
<p>B. Represent and use rational numbers</p>	
<p>C. Compose and decompose numbers</p>	
<p>D. Classify and describe numeric relationships</p>	
<p>2. Understand meanings of operations and how they relate to one another</p>	
<p>A. Represent operations</p>	
<p>B. Describe effects of operations</p>	
<p>C. Apply properties of operations</p>	
<p>apply <u>properties of logarithms</u> to simplify expressions or solve equations MA 4 1.6,1.10 VIII.c & d</p>	<p>Student Edition: 509-517, 520-526, 528-533, 536-542, 544-550 <i>Graphing Calculator Lab</i> 534-535 <i>Mid-Chapter Quiz</i> 527 #5-#7, #12-#20 <i>Practice Test</i> 557 <i>Study Guide and Review</i> 553-554 9-2 and 9-3, 555-556 Teacher Wraparound Edition: A 517; AE 512-514, 523, 529-531, 545-547; PAP 517, 533</p>

STANDARDS	PAGE REFERENCES
D. Apply operations on real and complex numbers	
<p>apply operations to matrices and complex numbers, using mental computation or paper-and-pencil calculations for simple cases and technology for more complicated cases</p> <p>MA 1,4,5 1.4,3.4 V.a, VIII.d, IX.6</p>	<p>Student Edition: 169-176, 177-184, 261-266 <i>Mid-Chapter Quiz</i> 193 #4-#14, 267 #19, #21-#23 <i>Practice Test</i> 229 #3-#5, 307 #18-#19 <i>Study Guide and Review</i> 225 4-2, 226 4-3, 304 5-4</p> <p>Teacher Wraparound Edition: A 266; AE 170-172, 178-180, 262-263; DI 178; PAP 171, 179</p>
3. Compute fluently and make reasonable estimates	
A. Describe or represent mental strategies	
B. Develop and demonstrate fluency	
C. Compute problems	
D. Estimate and justify solutions	
<p>judge the reasonableness of numerical computations and their results</p> <p>MA 1 3.8 V.a</p>	<p>Student Edition: 87-88 Example d, 148-149 Example 4, 298 #10, 370 Example 2, 372 #33, 482 Example 4, 485 #32, 500 Study Tip, 503 #11, 529 Example 3, 623 Example 2 <i>Reading Math</i> 319 #8</p> <p>Teacher Wraparound Edition: DI 522; TNT 29, 501</p>
E. Use proportional reasoning	
<p>solve problems involving proportions</p> <p>MA 1,4 3.3 V.a, VIII.e</p>	<p>Student Edition: 463 #67-#70, 465-471, 478 #40, 486 #47 <i>Mid-Chapter Quiz</i> 472 #20-#25 <i>Practice Test</i> 493 #17-#23 <i>Prerequisite Skills</i> 879 Example 2, 880 <i>Quick Check</i> 441 #11-#20 <i>Standardized Test Practice</i> 494-495 #2, #12 <i>Study Guide and Review</i> 491 8-4</p> <p>Teacher Wraparound Edition: AE 466-467</p>

STANDARDS	PAGE REFERENCES
Algebraic Relationships	
1. Understand patterns, relations and functions	
A. Recognize and extend patterns	
B. Create and analyze patterns	
generalize patterns using <u>explicitly</u> or <u>recursively</u> defined functions MA 4 1.6,3.5 VIII.1.b	Student Edition: 622-628, 629-635, 636-641, 643-649, 658-662 <i>Algebra Lab</i> 663 <i>Practice Test</i> 679 <i>Spreadsheet Lab</i> 657 <i>Standardized Test Practice</i> 680 #2-#5, #11 <i>Study Guide and Review</i> 675-677 Teacher Wraparound Edition: A 628; AE 623-625, 630-632, 637-638, 644-646, 659-660; PAP 628, 635, 641, 662
C. Classify objects and representations	
compare and contrast various forms of <u>representations</u> of patterns MA 4 1.6 VIII.a & h	Student Edition: <i>Algebra Lab</i> 663 #2-#3 <i>Standardized Test Practice</i> 230 #2
D. Identify and compare functions	
understand and compare the properties of <u>linear</u> , <u>quadratic</u> , <u>exponential</u> , <u>logarithmic</u> , and rational functions (include asymptotes) MA 4 1.6,3.6 VIII.b & c	Student Edition: 58-64, 66-70, 236-243, 286-292, 457-463, 473-478, 498-506, 509-517 <i>Graphing Calculator Lab</i> 78, 284-285, 464 Teacher Wraparound Edition: A 506; AE 59-60, 67-68, 237-239, 287-289, 458-460, 474-475, 499-502; PAP 70
E. Describe the effects of parameter changes	
describe the effects of <u>parameter changes</u> on <u>logarithmic</u> and <u>exponential</u> functions MA 4 1.6,4.1 VIII.i	Student Edition: 500 Example 2, 505 #60, 516 #63-#64 <i>Geometry Software Lab</i> 511 <i>Graphing Calculator</i> 505 #56-#59, 516 #68-#69 <i>Graphing Calculator Lab</i> 499 Teacher Wraparound Edition: AE 500 #2

STANDARDS	PAGE REFERENCES
<p>2. Represent and analyze mathematical situations and structures using algebraic symbols</p>	
<p>A. Represent mathematical situations</p>	
<p>use <u>symbolic algebra</u> to represent and solve problems that involve exponential and logarithmic relationships, including <u>recursive</u> and <u>parametric</u> relationships MA 4,6 1.6,3.1 VIII.c & d, X.h</p>	<p>Student Edition: 500-501 Example 3, 503-505 #8-#11, #28-#38, #51-#54, 522 Example 3, 524-525 #5, #39-#43, 529 Example 2, 531-532 #4, #20-#21, 544-550 <i>Graphing Calculator Lab</i> 518-519, 551 <i>Study Guide and Review</i> 553 #18, 554 #31, #39, 555 #48, #57, 556 Teacher Wraparound Edition: AE 500 #3, 522 #3, 529 #2, 545-547</p>
<p>B. Describe and use mathematical manipulation</p>	
<p>describe and use algebraic manipulations, including <u>inverse</u> of functions, <u>composition</u> of functions and rules of exponents MA 4 3.1,4.1 VIII.a & d & g</p>	<p>Student Edition: 385-390, 391-396, 415-421 <i>Practice Test</i> 435 #1-#2, #20-#21, #23 <i>Standardized Test Practice</i> 436 #2 <i>Study Guide and Review</i> 431, 433 7-6 Teacher Wraparound Edition: AE 386-387, 392-393, 416-418; DI 392; PAP 386, 396, 417</p>
<p>C. Utilize equivalent forms</p>	
<p>use and solve equivalent forms of equations and inequalities (exponential, logarithmic and rational) MA 4 1.6,3.4 VIII.d</p>	<p>Student Edition: 479-486, 501-502 Examples 4 and 5, 504 #12-#17, #39-#48, 512-517, 523 Example 5, 524-525 #8-#11, #25-#38, 528-533 <i>Graphing Calculator Lab</i> 487-488, 507-508, 534-535 <i>Study Guide and Review</i> 492 8-6, 553 #14-#17, 554 #27-#31, #36-#39, 555 9-4 Teacher Wraparound Edition: AE 480-483, 501-502, 512-514, 523, 529-531; DI 513</p>

STANDARDS	PAGE REFERENCES
D. Utilize systems	
<p>use and solve systems of linear and quadratic equations or inequalities with 2 variables</p> <p>MA 4 1.6 VIII.b & d</p>	<p>Student Edition: 116-122, 123-129, 130-135, 603-608 <i>Graphing Calculator Lab</i> 136 <i>Mid-Chapter Quiz</i> 137 <i>Practice Test</i> 157 #1-#10, 615 #18-#23 <i>Standardized Test Practice</i> 158-159 #1, #3-#8, #10-#11 <i>Study Guide and Review</i> 154, 155 3-3, 614</p> <p>Teacher Wraparound Edition: A 129; AE 117-119, 124-126, 131-132, 604-605; PAP 135, 608; T 123</p>
3. Use mathematical models to represent and understand quantitative relationships	
A. Use mathematical models	
<p>identify quantitative relationships and determine the type(s) of functions that might model the situation to solve the problem (including <u>recursive</u> forms)</p> <p>MA 4 1.6,3.6 VIII.c & h</p>	<p>Student Edition: 86-91, 659 Example 2, 661 #5-#6, #23, #26 <i>Algebra Lab</i> 663 #2 <i>Graphing Calculator Lab</i> 92-94, 252, 293 #1, 346-347, 518-519, 551 #2 <i>Reading Math</i> 65 <i>Study Guide and Review</i> 109</p> <p>Teacher Wraparound Edition: AE 87-88, 659 #2; PAP 91</p>
4. Analyze change in various contexts	
A. Analyze change	
<p>analyze exponential and logarithmic functions by investigating rates of change, intercepts and asymptotes</p> <p>MA 4 1.6,4.1 VIII.a & c</p>	<p>Student Edition: 498-499 <i>Geometry Software Lab</i> 511 <i>Graphing Calculator</i> 505 #56-#59</p> <p>Teacher Wraparound Edition: AE 499</p>

STANDARDS	PAGE REFERENCES
Geometric and Spatial Relationships	
1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships	
A. Describe and use geometric relationships	
use trigonometric relationships with right triangles to determine lengths and angle measures MA 2 1.6,1.10 VI.i	Student Edition: 759-767, 774 #64-#67 <i>Mid-Chapter Quiz</i> 784 #1-#5 <i>Practice Test</i> 817 #1-#4 <i>Standardized Test Practice</i> 818 #7 <i>Study Guide and Review</i> 813 13-1 Teacher Wraparound Edition: AE 760-764
B. Apply geometric relationships	
determine the effect on surface area or volume of changing one measurement MA 2 3.5 VI.i	Student Edition: <i>Standardized Test Practice</i> 54 #4
C. Compose and decompose shapes	
2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems	
A. Use coordinate systems	
use vectors to represent and analyze problems involving velocity and direction MA 2 3.6,4.1 VI.h	See Glencoe's <i>Geometry</i> © 2008 Student Edition: 533-542
3. Apply transformations and use symmetry to analyze mathematical situations	
A. Use transformations on objects	
use and apply matrices to represent translations, reflections, rotations, and dilations MA 2 1.10 VI.g	Student Edition: 185-192, 200 #44-#45, 207 #39-#40 <i>Mid-Chapter Quiz</i> 193 #15-#16 <i>Practice Test</i> 229 #16-#17 <i>Standardized Test Practice</i> 230 #1 <i>Study Guide and Review</i> 226 4-4 Teacher Wraparound Edition: A 192; AE 186-188; PAP 192

STANDARDS	PAGE REFERENCES
B. Use transformations on functions	
perform simple transformations and their compositions on linear, quadratic, logarithmic and exponential <u>functions</u> MA 4 3.1 VIII.i	Student Edition: 286-292 <i>Graphing Calculator Lab</i> 284-285, 499 <i>Practice Test</i> 307 #20-#22 <i>Standardized Test Practice</i> 308 #1, #4 <i>Study Guide and Review</i> 306 5-7 Teacher Wraparound Edition: AE 287-289
C. Use symmetry	
4. Use visualization, spatial reasoning and geometric modeling to solve problems	
A. Recognize and draw three-dimensional representations	
draw representations of 3-dimensional geometric objects from different perspectives using a variety of tools MA 2 1.4 VI.a	Drawing models in three dimensions can be found on the following page: Teacher Wraparound Edition: I 149
B. Draw and use visual models	
draw or use <u>visual models</u> to represent and solve problems MA 2 3.1 VI.b & i	Student Edition: <i>Algebra Lab</i> 13, 262, 270, 321, 624, 703 <i>Graphing Calculator Lab</i> 78, 97 <i>Standardized Test Practice</i> 55 #8, 113 #7, 309 #11, 558 #1, 753 #9 Teacher Wraparound Edition: DI 140, 254, 513, 692, 762, 808, 823; I 149
Measurement	
1. Understand measurable attributes of objects and the units, systems and processes of measurement	
A. Determine unit of measurement	
B. Identify equivalent measures	
compare and contrast <u>intensity levels</u> within a system of measure (decibels, pH) MA 1 3.1 V.c	Student Edition: 509, 514-516 #13-#15, #50-#51, #65-#67, 522 Example 3, 524-525 #21, #39-#43, 528, 531-532 #4, #20-#21, #40-#43 Teacher Wraparound Edition: AE 522 #3; T 509-510, 528

STANDARDS	PAGE REFERENCES
C. Tell and use units of time	
D. Count and compute money	
2. Apply appropriate techniques, tools and formulas to determine measurements	
A. Use standard or non-standard measurement	
B. Use angle measurement	
C. Apply geometric measurements	
D. Analyze precision	
apply concepts of successive approximation MA 2 1.6,3.4 VI.k	Based on the definition of successive approximation as a method for estimating the value of an unknown quantity by repeated comparison to a sequence of known quantities, the following lessons may be used to meet this standard. Student Edition: Lesson 11-1 and Lesson 11-4
E. Use relationships within a measurement system	
use <u>unit analysis</u> to solve problems involving rates, such as speed, density, or population density MA 4 3.1 VIII.b	Student Edition: 315, 316-317 #10, #28, #40, 324 #74, 330 #52, 336 #34-#35 <i>Reading Math</i> 319 <i>Standardized Test Practice</i> 774 #63 Teacher Wraparound Edition: AE 315 #5
Data and Probability	
1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them	
A. Formulate questions	
formulate questions, design studies and collect data about a characteristic MA 3 1.2 VII.a	Student Edition: <i>Algebra Lab</i> 88, 734, 740 <i>Graphing Calculator Lab</i> 293, 347 #12-#14, 551 Teacher Wraparound Edition: PAP 91

STANDARDS	PAGE REFERENCES
B. Classify and organize data	
C. Represent and interpret data	
describe the characteristics of well designed studies, including the role of randomization in survey and experimental research MA 3 1.2,3.1 VII.c & e	Student Edition: 741-744 Teacher Wraparound Edition: A 743; AE 742 #1; DI 742
2. Select and use appropriate statistical methods to analyze data	
A. Describe and analyze data	
apply statistical concepts to solve problems and distinguish between a statistic and a parameter MA 3 1.10,3.4 VII.g	Student Edition: 86-91, 717-723 <i>Algebra Lab 734</i> <i>Graphing Calculator Lab 92-94</i> <i>Practice Test 111 #27-#29</i> <i>Standardized Test Practice 752 #1, #3</i> <i>Study Guide and Review 109, 748 12-6</i> Teacher Wraparound Edition: AE 87-88, 718; PAP 91, 723
B. Compare data representations	
given <u>one-variable quantitative</u> data, display the distribution, describe its shape and calculate <u>summary statistics</u> MA 3 1.8,1.10 VII.d & i	Student Edition: 724-728 Teacher Wraparound Edition: AE 725
C. Represent data algebraically	
given a scatterplot, determine a type of function which models the data MA 3 1.6 VII.b	Student Edition: <i>Graphing Calculator Lab 252 #1, 293 #1, 346-347 #7, 518-519, 551 #2</i>
3. Develop and evaluate inferences and predictions that are based on data	
A. Develop and evaluate inferences	
use simulations to describe the variability of sample statistics from a known population and to construct <u>sampling distributions</u> MA 3 1.2 VII.f	Student Edition: <i>Algebra Lab 734</i>
B. Analyze basic statistical techniques	

STANDARDS	PAGE REFERENCES
4. Understand and apply basic concepts of probability	
A. Apply basic concepts of probability	
compute and interpret the <u>expected value</u> of random variables MA 3 3.1 VII.h	Student Edition: 699, 700-701 #6-#7, #22-#27 Teacher Wraparound Edition: AE 699
B. Use and describe compound events	
use and describe how to compute the probability of a <u>compound event</u> MA 2 3.1 VI.g	Student Edition: 710-714 <i>Mid-Chapter Quiz</i> 716 #17-#21 <i>Practice Test</i> 751 #16 <i>Study Guide and Review</i> 747 12-5 Teacher Wraparound Edition: AE 711-712; PAP 715