



MathMatters 3

An Integrated Program

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STANDARDS	PAGE REFERENCES
Algebra I	
Number and Operations	
1. Understand numbers, ways of representing numbers, relationships among numbers and number systems	
A Read, write and compare numbers	
compare and order rational and irrational numbers, including finding their approximate locations on a number line	Student Edition: 11 <i>Are You Ready?</i> 243 #32-#39 <i>Example 11</i> <i>Extra Practice</i> 662 <i>Practice Exercises</i> 12 #15-#18 <i>Review and Practice Your Skills</i> 14 #28-#32, #34, #36, #37 <i>Try These Exercises</i> 12 #5-#8 Annotated Teacher's Edition: CE 11

STANDARDS	PAGE REFERENCES
B Represent and use rational numbers	
use real numbers and various models, drawing, etc. to solve problems.	Student Edition: <i>Chapter Review</i> 330 #38, #39 <i>Practice Exercises</i> 327, 573, 634-635 <i>Try These Exercises</i> 326, 573 Annotated Teacher's Edition: CE 327
C Compose and decompose numbers	
*use a variety of representations to demonstrate an understanding of very large and very small numbers	The following page references can be used during teacher/class discussion to meet this standard. Student Edition: 38 <i>Example</i> 38, 39 <i>Practice Exercises</i> 40-41 <i>Try These Exercises</i> 40
D Classify and describe numeric relationships	
2. Understand meanings of operations and how they relate to one another	
A Represent operations	
B Describe effects of operations	
*describe the effects of operations, such as multiplication, division, and computing powers and roots on the magnitude of quantities	The following page references can be used during teacher/class discussion to meet this standard. Student Edition: 26-27, 38-40 Annotated Teacher's Edition: EL 37
C Apply properties of operations	
D Apply operations on real and complex numbers	
*apply operations to real numbers, using mental computation or paper-and-pencil calculations for simple cases and technology for more complicated cases	Student Edition: <i>Are You Ready?</i> 466 #1-#10 <i>Chapter Assessment</i> 45 #15-#22 <i>Chapter Review</i> 43 #28-#39 <i>Example</i> 27 <i>Practice Exercises</i> 28 #17-#25, 29 #32-#37 <i>Prerequisite Skills</i> 655-658, 660 <i>Try These Exercises</i> 28 #1-#10 Annotated Teacher's Edition: CE 27; FG 28

STANDARDS	PAGE REFERENCES
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	
*judge the reasonableness of numerical computations and their results	<p>The following page references use addition and subtraction estimation.</p> <p>Student Edition: 21 <i>Example 21</i></p> <p>Annotated Teacher’s Edition: DI 20; EL 21, 22</p>
E Use proportional reasoning	
*solve problems involving proportions	<p>Student Edition: <i>Are You Ready?</i> 561 #13-#24 <i>Example</i> 296, 297 <i>Extra Practice</i> 683 <i>Practice Exercises</i> 298 #18-#21, 299 #28-#30 <i>Review and Practice Your Skills</i> 304 #19-#22 <i>Try These Exercises</i> 298 #7, #8</p> <p>Annotated Teacher’s Edition: CE 297; TT 297</p>
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	<p>See Glencoe’s <i>MathMatters 2: An Integrated Program</i> © 2009.</p> <p>Student Edition: 92-93, 96, 97, 99 #17, 215, 243, 538-541, 542-545, 546, 625</p> <p>For recursive functions see <i>Algebra 1</i> © 2008, pages 166-169.</p>

STANDARDS	PAGE REFERENCES
C Classify objects and representations	
<p>compare and contrast various forms of <u>representations</u> of patterns</p>	<p>Student Edition: <i>Example 52</i> <i>Extra Practice 665</i> <i>Practice Exercises 54-55</i> <i>Review and Practice Your Skills 60 #1-#16, 61 #36-#43</i> <i>Try These Exercises 54 #1-#6</i></p> <p>Annotated Teacher's Edition: DI 55; EL 53; QA 54</p>
D Identify and compare functions	
<p>understand and compare the properties of <u>linear</u> and <u>nonlinear functions</u></p>	<p>The following page references can be used during teacher/class discussion to meet this standard.</p> <p>Student Edition: 62-65, 520-523 <i>Are You Ready?</i> 518-519 <i>Build Understanding</i> 62, 520, 524</p>
E Describe the effects of parameter changes	
<p>describe the effects of <u>parameter changes</u> on <u>linear</u>, <u>exponential growth/decay</u> and <u>quadratic functions</u> including intercepts</p>	<p>Student Edition: 521, 524, 525 <i>Check Understanding 524</i> <i>Example 521</i> <i>Practice Exercises 522 #13-#16, 597 #24-#26</i></p> <p>Annotated Teacher's Edition: DI 595; EL 531; QA 522, 526, 596; TT 530</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 linear and quadratic relationships including equations and inequalities</p>	<p>Student Edition: <i>Extra Practice 667-668</i> <i>MathWorks 81</i> <i>Practice Exercises 65 #17-#19, 69 #25-#28, #38, 75 #31-#33, 79 #25, #26</i> <i>Try These Exercises 64 #5, 74 #9</i></p>

STANDARDS	PAGE REFERENCES
B Describe and use mathematical manipulation	
<p>describe and use algebraic manipulations, including factoring and rules of integer exponents and apply <u>properties of exponents</u> (including order of operations) to simplify expressions</p>	<p>Student Edition: <i>Are You Ready?</i> 466 #1-#10 <i>Build Understanding</i> 35, 38 <i>Chapter Assessment</i> 45 #23-#28 <i>Chapter Review</i> 44 #45-#53 <i>Example</i> 35, 36, 38 <i>Extra Practice</i> 664 <i>Practice Exercises</i> 36, 40, 480 #20, #21 <i>Standardized Test Practice</i> 46 #10, #21, #24, #25 <i>Try These Exercises</i> 36, 40 Annotated Teacher's Edition: CE 35, 39; QA 36</p>
C Utilize equivalent forms	
<p>use and solve equivalent forms of equations (linear, absolute value, and quadratic)</p>	<p>Student Edition: <i>Are You Ready?</i> 242 #1-#9 <i>Build Understanding</i> 524 <i>Example</i> 62, 63, 525, 531 <i>Try These Exercises</i> 64 #1, #2 Annotated Teacher's Edition: DI 62; FG 63; QA 532</p>
D Utilize systems	
<p>use and solve systems of linear equations or inequalities with 2 variables</p>	<p>Student Edition: <i>Build Understanding</i> 258, 264, 268, 276 <i>Chapter Assessment</i> 289 #10-#17 <i>Chapter Review</i> 287 #26-#32, 288 #34-#36, #42-#44 <i>Example</i> 258, 259, 264, 265, 268, 269, 276, 277 <i>Extra Practice</i> 681-682 <i>Mid-Chapter Quiz</i> 263 #13-#15 <i>Practice Exercises</i> 260, 266 #6-#11, 270 #9-#16, 278 <i>Review and Practice Your Skills</i> 262 #31-#39, #60-#62, 272, 280 #20-#34 <i>Standardized Test Practice</i> 290 #8, #9, #20, #21 <i>Try These Exercises</i> 260, 266, 270 #1-#4, 278 Annotated Teacher's Edition: CE 259, 265, 269, 277; TT 267, 276</p>

STANDARDS	PAGE REFERENCES
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</p>	<p>Student Edition: <i>Are You Ready?</i> 242 #1-#9, 519 #13-#16 <i>Example</i> 63, 595 <i>Practice Exercises</i> 65 #17-#19, 596 #15-#22 <i>Review and Practice Your Skills</i> 598 #22-#28 <i>Try These Exercises</i> 64 #5, 596 #4, #5 Annotated Teacher's Edition: CE 63, 595</p>
4. Analyze change in various contexts	
A Analyze change	
<p>analyze linear and quadratic functions by investigating rates of change, intercepts and zeros</p>	<p>Student Edition: 245 <i>Build Understanding</i> 530 <i>Chapter Review</i> 554 #64-#66 <i>Example</i> 245, 530, 531 <i>Practice Exercises</i> 246 #25-#37, 551 #3-#7 <i>Problem</i> 550 <i>Review and Practice Your Skills</i> 252 #16-#35 <i>Try These Exercises</i> 246 #6-#14 Annotated Teacher's Edition: CE 245, 531; QA 532</p>
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	
B Apply geometric relationships	
<p>*apply geometric properties such as similarity and angle relationship to solve multi-step problems in 2 dimensions</p>	<p>Student Edition: <i>Build Understanding</i> 300 <i>Example</i> 300, 301 <i>Extra Practice</i> 684 <i>MathWorks</i> 305 <i>Practice Exercises</i> 302-303, 327 <i>Review and Practice Your Skills</i> 304 #23-#30 <i>Try These Exercises</i> 302, 326 Annotated Teacher's Edition: CE 301; DI 300; FG 302</p>

STANDARDS	PAGE REFERENCES
C Compose and decompose shapes	
2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems	
A Use coordinate systems	
3. Apply transformations and use symmetry to analyze mathematical situations	
A Use transformations on objects	
B Use transformations on functions	
C Use symmetry	
4. Use visualization, spatial reasoning and geometric modeling to solve problems	
A Recognize and draw three-dimensional representations	
B Draw and use visual models	
*draw or use <u>visual models</u> to represent and solve problems	<p>Student Edition: <i>MathWorks</i> 113, 133, 159, 177, 211, 435, 453 <i>Practice Exercises</i> 217, 327 <i>Problem</i> 216, 326 <i>Try These Exercises</i> 216, 326</p> <p>Annotated Teacher's Edition: DI 104, 110, 112, 114, 115, 152, 153, 155, 177, 230, 300, 442; EL 191, 205, 207, 208, 217, 309; FG 149, 172, 302</p>
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	

STANDARDS	PAGE REFERENCES
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	
<p>*describe the effects of operations, such as multiplication, division and computing powers and roots on magnitudes of quantities and effects of computation on <u>precision</u> which include the judging of reasonable of numerical computations <u>and their results</u></p>	<p>The following page references can be used during teacher/class discussion to meet this standard.</p> <p>Student Edition: 39 <i>Are You Ready?</i> 425 #19-#30 <i>Extended Practice Exercises</i> 29 #41-#44</p> <p>Annotated Teacher's Edition: AA 40; FG 26, 27; QA 425</p>
E Use relationships within a measurement system	
<p>*use <u>unit analysis</u> to solve problems</p>	<p>Student Edition: <i>Example</i> 203 <i>Practice Exercises</i> 204 #11-#18 <i>Try These Exercises</i> 204 #1-#4</p> <p>Also see Glencoe's <i>Algebra 1</i> © 2008</p> <p>Student Edition: 591, 596</p>
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	
<p>formulate questions and collect data about a characteristic which include <u>sample spaces</u> and distributions</p>	<p>Student Edition: 384, 385, 415 <i>Chapter Investigation</i> 381</p> <p>Annotated Teacher's Edition: EL 387; FG 385, 391, 408</p>
B Classify and organize data	

STANDARDS	PAGE REFERENCES
C Represent and interpret data	
select and use appropriate graphical representation of data and given <u>one-variable quantitative data</u> , display the distribution and describe its shape	The following page reference involves distribution and can be expanded to meet this standard. Student Edition: <i>Extended Practice Exercises 415</i>
2. Select and use appropriate statistical methods to analyze data	
A Describe and analyze data	
apply statistical measures of center to solve problems	Student Edition: 83 <i>Data Activity 381 #3</i> <i>Example 83</i> <i>Extended Practice Exercises 85</i> <i>Practice Exercises 85</i> <i>Try These Exercises 84</i> Annotated Teacher's Edition: CE 83; EL 83
B Compare data representations	
C Represent data algebraically	
given a scatterplot, determine an equation for <u>a line of best fit</u>	Student Edition: 406 Also see Glencoe's <i>Algebra 1</i> © 2008 Student Edition: 228-233
3. Develop and evaluate inferences and predictions that are based on data	
A Develop and evaluate inferences	
make <u>conjectures</u> about possible relationships between 2 characteristics of a sample on the basis of scatter plots of the data	Student Edition: 406 <i>Chapter Review 418 #34</i> <i>Example 406</i> <i>Practice Exercises 409 #8</i> <i>Review and Practice Your Skills 410 #27</i> <i>Try These Exercises 408 #2, #3</i> Annotated Teacher's Edition: EL 406; FG 408

STANDARDS	PAGE REFERENCES
B Analyze basic statistical techniques	
4. Understand and apply basic concepts of probability	
A Apply basic concepts of probability	
B Use and describe compound events	
Geometry	
Number and Operations	
1. Understand numbers, ways of representing numbers, relationships among numbers and number systems	
A Read, write and compare numbers	
compare and order rational and irrational numbers, including finding their approximate locations on a number line	Student Edition: 11 <i>Are You Ready?</i> 243 #32-#39 <i>Example 11</i> <i>Extra Practice</i> 662 <i>Practice Exercises</i> 12 #15-#18 <i>Review and Practice Your Skills</i> 14 #28-#32, #34, #36, #37 <i>Try These Exercises</i> 12 #5-#8 Annotated Teacher's Edition: CE 11
B Represent and use rational numbers	
use real numbers and various models, drawing, etc. to solve problems.	Student Edition: <i>Chapter Review</i> 330 #38, #39 <i>Practice Exercises</i> 327, 573, 634-635 <i>Try These Exercises</i> 326, 573 Annotated Teacher's Edition: CE 327
C Compose and decompose numbers	
D Classify and describe numeric relationships	

STANDARDS	PAGE REFERENCES
2. Understand meanings of operations and how they relate to one another	
A Represent operations	
B Describe effects of operations	
C Apply properties of operations	
D Apply operations on real and complex numbers	
<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>Student Edition: <i>Are You Ready?</i> 466 #1-#10 <i>Chapter Assessment</i> 45 #15-#22 <i>Chapter Review</i> 43 #28-#39 <i>Example</i> 27 <i>Practice Exercises</i> 28 #17-#25, 29 #32-#37 <i>Prerequisite Skills</i> 655-658, 660 <i>Try These Exercises</i> 28 #1-#10 Annotated Teacher's Edition: CE 27; FG 28</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>The following references use addition and subtraction estimation. Student Edition: 21 <i>Example</i> 21 Annotated Teacher's Edition: DI 20; EL 21, 22</p>
E Use proportional reasoning	
<p>*solve problems involving proportions</p>	<p>Student Edition: <i>Are You Ready?</i> 561 #13-#24 <i>Example</i> 296, 297 <i>Extra Practice</i> 683 <i>Practice Exercises</i> 298 #18-#21, 299 #28-#30 <i>Review and Practice Your Skills</i> 304 #19-#22 <i>Try These Exercises</i> 298 #7, #8 Annotated Teacher's Edition: CE 297; TT 297</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	For recursive functions see Glencoe's <i>Algebra 1</i> © 2008. Student Edition: 166-169
C Classify objects and representations	
compare and contrast various forms of <u>representations</u> of patterns	Student Edition: <i>Example 52</i> <i>Extra Practice 665</i> <i>Practice Exercises 54-55</i> <i>Review and Practice Your Skills 60 #1-#16, 61 #36-#43</i> <i>Try These Exercises 54 #1-#6</i> Annotated Teacher's Edition: DI 55; EL 53; QA 54
D Identify and compare functions	
apply appropriate <u>properties of exponents</u> to simplify expressions and solve equations	Student Edition: 35 <i>Example 35, 36</i> <i>Extra Practice 664</i> <i>Practice Exercises 36 #27-#34, #38-#40</i> <i>Try These Exercises 36 #8-#15</i> Annotated Teacher's Edition: CE 35; QA 36
E Describe the effects of parameter changes	

STANDARDS	PAGE REFERENCES
<p>2. Represent and analyze mathematical situations and structures using algebraic symbols</p> <p>A Represent mathematical situations</p> <p>B Describe and use mathematical manipulation</p> <p>C Utilize equivalent forms</p> <p>D Utilize systems</p> <p>3. Use mathematical models to represent and understand quantitative relationships</p> <p>A Use mathematical models</p>	
<p>identify quantitative relationships and determine the type(s) of functions that might model the situation to solve the problem</p>	<p>Student Edition: <i>Are You Ready?</i> 242 #1-#9, 519 #13-#16 <i>Example</i> 63, 595 <i>Practice Exercises</i> 65 #17-#19, 596 #15-#22 <i>Review and Practice Your Skills</i> 598 #22-#28 <i>Try These Exercises</i> 64 #5, 596 #4, #5 Annotated Teacher's Edition: CE 63, 595</p>
<p>4. Analyze change in various contexts</p> <p>A Analyze change</p>	
<p>analyze linear and quadratic functions by investigating rates of change and intercepts</p>	<p>Student Edition: 245 <i>Build Understanding</i> 530 <i>Chapter Review</i> 554 #64-#66 <i>Example</i> 245, 530, 531 <i>Practice Exercises</i> 246 #25-#37, 551 #3-#7 <i>Problem</i> 550 <i>Review and Practice Your Skills</i> 252 #16-#35 <i>Try These Exercises</i> 246 #6-#14 Annotated Teacher's Edition: CE 245, 531; QA 532</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	
<p>use inductive and deductive reasoning to establish the validity of geometric conjectures, prove theorems and critique arguments made by others</p>	<p>Student Edition: <i>Build Understanding</i> 124, 134 <i>Example</i> 124, 125, 134, 135 <i>Extra Practice</i> 671, 672 <i>Practice Exercises</i> 126-127, 136-137 <i>Reading Math</i> 135 <i>Review and Practice Your Skills</i> 132 #1-#8 <i>Try These Exercises</i> 126, 136 Annotated Teacher's Edition: CE 125, 135; FG 124, 125; QA 126, 136</p>
B Apply geometric relationships	
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>Student Edition: <i>Are You Ready?</i> 50 #13-#24 <i>Build Understanding</i> 56 <i>Chapter Assessment</i> 377 #1-#5 <i>Chapter Review</i> 374-375 <i>Example</i> 338, 339, 342, 343, 348, 349, 352, 353 <i>Extra Practice</i> 686-687 <i>Practice Exercises</i> 340 #6-#9, 344 #5-#7, 350, 354 <i>Reading Math</i> 56 <i>Review and Practice Your Skills</i> 346-347, 356-357 <i>Try These Exercises</i> 340 #1-#4, 344 #1, #2, 349, 353 Annotated Teacher's Edition: CE 339, 343; QA 344, 354; TT 343</p>

STANDARDS	PAGE REFERENCES
3. Apply transformations and use symmetry to analyze mathematical situations	
A Use transformations on objects	
<p>use and apply constructions and the coordinate plane to represent translations, reflections, rotations and dilations of objects</p>	<p>Student Edition: 338, 342, 348, 352 <i>Build Understanding</i> 338, 342, 348, 352 <i>Example</i> 338, 339, 340, 342, 343, 348, 349, 352, 353 <i>Mid-Chapter Quiz</i> 357 <i>Practice Exercises</i> 340-341, 344-345, 350-351, 354-355 <i>Review and Practice Your Skills</i> 346-347, 356-357 <i>Try These Exercises</i> 340, 344, 349, 353 Annotated Teacher's Edition: CE 339, 343, 349, 353</p>
B Use transformations on functions	
C Use symmetry	
<p>identify types of symmetries of 2- and 3-dimensional figures</p>	<p>Student Edition: <i>Are You Ready?</i> 337 #28-#33 <i>Build Understanding</i> 338 <i>Extended Practice Exercises</i> 345 #16</p>
4. Use visualization, spatial reasoning and geometric modeling to solve problems	
A Recognize and draw three-dimensional representations	
<p>draw and use vertex-edge graphs or networks to find optimal solutions and draw representations of 3-dimensional geometric objects from different perspectives</p>	<p>The diagrams on the following page references can be used as networks to meet this standard. Student Edition: 220-222, 228 <i>Extended Practice Exercises</i> 223 #20 <i>Practice Exercises</i> 223 #18 Annotated Teacher's Edition: FG 222</p>

STANDARDS	PAGE REFERENCES
B Draw and use visual models	
*draw or use <u>visual models</u> to represent and solve problems	Student Edition: <i>MathWorks</i> 113, 133, 159, 177, 211, 435, 453 <i>Practice Exercises</i> 217, 327 <i>Problem</i> 216, 326 <i>Try These Exercises</i> 216, 326 Annotated Teacher's Edition: DI 104, 110, 112, 114, 115, 152, 153, 155, 177, 230, 300, 442; EL 191, 205, 207, 208, 217, 309; FG 149, 172, 302
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, including those involving triangles or other polygons and of parallel lines cut by a transversal	Student Edition: 120 <i>Example</i> 110, 116, 120 <i>MathWorks</i> 113 <i>Practice Exercises</i> 111 #15, #16, 116 #10-#25, 121 #9-#14 <i>Review and Practice Your Skills</i> 112 #29-#31, 122 #5-#12, #18-#25 <i>Try These Exercises</i> 110 #7, #8, 116 #4, #5, 120

STANDARDS	PAGE REFERENCES
C Apply geometric measurements	
determine the surface area, and volume of geometric figures, including cones, spheres, and cylinders	Student Edition: <i>Build Understanding</i> 220, 224, 230 <i>Chapter Review</i> 236 <i>Example</i> 224, 225, 226, 230, 231, 232 <i>Extra Practice</i> 679 <i>Practice Exercises</i> 226-227, 232-233 <i>Review and Practice Your Skills</i> 228 #12-#18 <i>Try These Exercises</i> 226, 232 Annotated Teacher's Edition: CE 225, 231; EL 233
D Analyze precision	
E Use relationships within a measurement system	
*use <u>unit analysis</u> to solve problems	Student Edition: <i>Example</i> 203 <i>Practice Exercises</i> 204 #11-#18 <i>Try These Exercises</i> 204 #1-#4 Also see Glencoe's <i>Algebra 1</i> © 2008 Student Edition: 591, 596
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 and collect data about a characteristic	Student Edition: 384, 385, 415 <i>Chapter Investigation</i> 381 Annotated Teacher's Edition: EL 387; FG 385, 391, 408
B Classify and organize data	
C Represent and interpret data	
select and use appropriate graphical representation of data and given <u>one-variable quantitative data</u> , display the distribution and describe its shape	The following page reference involves distribution and can be expanded to meet this standard. Student Edition: <i>Extended Practice Exercises</i> 415

STANDARDS	PAGE REFERENCES
2. Select and use appropriate statistical methods to analyze data	
A Describe and analyze data	
B Compare data representations	
C Represent data algebraically	
3. Develop and evaluate inferences and predictions that are based on data	
A Develop and evaluate inferences	
B Analyze basic statistical techniques	
4. Understand and apply basic concepts of probability	
A Apply basic concepts of probability	
B Use and describe compound events	
Algebra II	
Number and Operations	
1. Understand numbers, ways of representing numbers, relationships among numbers and number systems	
A Read, write and compare numbers	
compare and order rational and irrational numbers, including finding their approximate locations on a number line	Student Edition: 11 <i>Are You Ready?</i> 243 #32-#39 <i>Example 11</i> <i>Extra Practice</i> 662 <i>Practice Exercises</i> 12 #15-#18 <i>Review and Practice Your Skills</i> 14 #28-#32, #34, #36, #37 <i>Try These Exercises</i> 12 #5-#8 Annotated Teacher's Edition: CE 11
B Represent and use rational numbers	
use real numbers and various models, drawing, etc. to solve problems.	Student Edition: <i>Chapter Review</i> 330 #38, #39 <i>Practice Exercises</i> 327, 573, 634-635 <i>Try These Exercises</i> 326, 573 Annotated Teacher's Edition: CE 327

STANDARDS	PAGE REFERENCES
C Compose and decompose numbers	
*use a variety of representations to demonstrate an understanding of very large and very small numbers	<p>The following page references can be used during teacher/class discussion to meet this standard.</p> <p>Student Edition: 38 <i>Example 38, 39</i> <i>Practice Exercises 40-41</i> <i>Try These Exercises 40</i></p>
D Classify and describe numeric relationships	
2. Understand meanings of operations and how they relate to one another	
A Represent operations	
B Describe effects of operations	
C Apply properties of operations	
D Apply operations on real and complex numbers	
*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>Student Edition: <i>Build Understanding 358, 362</i> <i>Example 358, 359, 362, 363</i> <i>Extra Practice 688-689</i> <i>Practice Exercises 360-361, 364-365</i> <i>Review and Practice Your Skills 366</i> <i>Technology Note 358, 360, 363</i> <i>Try These Exercises 360, 364</i></p> <p>Annotated Teacher's Edition: CE 359; TT 358, 359, 362</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	
*judge the reasonableness of numerical computations and their results	<p>The following page references use addition and subtraction estimation.</p> <p>Student Edition: 21 <i>Example 21</i></p> <p>Annotated Teacher's Edition: DI 20; EL 21, 22</p>

STANDARDS	PAGE REFERENCES
E Use proportional reasoning	
*solve problems involving proportions	<p>Student Edition: <i>Are You Ready?</i> 561 #13-#24 <i>Example</i> 296, 297 <i>Extra Practice</i> 683 <i>Practice Exercises</i> 298 #18-#21, 299 #28-#30 <i>Review and Practice Your Skills</i> 304 #19-#22 <i>Try These Exercises</i> 298 #7, #8</p> <p>Annotated Teacher's Edition: CE 297; TT 297</p>
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	<p>For recursive functions, see Glencoe's <i>Algebra 1</i> © 2008</p> <p>Student Edition: 166-169</p>
C Classify objects and representations	
compare and contrast various forms of <u>representations</u> of patterns	<p>Student Edition: <i>Example</i> 52 <i>Extra Practice</i> 665 <i>Practice Exercises</i> 54-55 <i>Review and Practice Your Skills</i> 60 #1-#16, 61 #36-#43 <i>Try These Exercises</i> 54 #1-#6</p> <p>Annotated Teacher's Edition: DI 55; EL 53; QA 54</p>
D Identify and compare functions	
Compare the properties of linear, exponential, logarithmic and rational functions	<p>Student Edition: <i>Build Understanding</i> 62, 594, 600</p> <p>Annotated Teacher's Edition: DI 595, 600; FG 62; QA 64, 596, 602</p> <p>For rational functions, see Glencoe's <i>Algebra 2</i> © 2008.</p> <p>Student Edition: 457-463</p>

STANDARDS	PAGE REFERENCES
E Describe the effects of parameter changes	
describe the effects of <u>parameter changes</u> on functions	Student Edition: 521, 524, 525 <i>Check Understanding</i> 524 <i>Example</i> 521 <i>Practice Exercises</i> 522 #13-#16, 597 #24-#26 Annotated Teacher's Edition: DI 595; EL 531; QA 522, 526, 596; TT 530
2. Represent and analyze mathematical situations and structures using algebraic symbols	
A Represent mathematical situations	
use <u>symbolic algebra</u> to represent and solve problems that involve exponential, quadratic and logarithmic relationships	Student Edition: <i>Example</i> 530, 531, 532, 534, 535, 595, 601 <i>Practice Exercises</i> 532 #7-#25, 536 #20-#31, #38-#40, 596, 602-603 <i>Try These Exercises</i> 532, 536, 596, 602
B Describe and use mathematical manipulation	
describe and use algebraic manipulations, <u>inverse</u> or <u>composition</u> of functions	See Glencoe's <i>Algebra 2</i> © 2008 Student Edition: 385-390, 392-397
C Utilize equivalent forms	
use and solve equivalent forms of equations and inequalities	Student Edition: <i>Are You Ready?</i> 50, #1-#12, 242 #1-#9 <i>Build Understanding</i> 76, 524 <i>Example</i> 62, 63, 77, 78, 525, 531 <i>Practice Exercises</i> 79 #10-#24 <i>Try These Exercises</i> 64 #1, #2, 78 #1-#9 Annotated Teacher's Edition: CE 77; DI 62; FG 63; QA 78, 532

STANDARDS	PAGE REFERENCES
D Utilize systems	
use and solve systems of linear and quadratic equations or inequalities with 2 variables	<p>Student Edition: <i>Build Understanding</i> 258, 264, 268, 276 <i>Chapter Assessment</i> 289 #10-#17 <i>Chapter Review</i> 287 #26-#32, 288 #34-#36, #42-#44 <i>Example</i> 258, 259, 264, 265, 268, 269, 276, 277 <i>Extra Practice</i> 681-682 <i>Mid-Chapter Quiz</i> 263 #13-#15 <i>Practice Exercises</i> 260, 266 #6-#11, 270 #9-#16, 278 <i>Review and Practice Your Skills</i> 262 #31-#39, #60-#62, 272, 280 #20-#34 <i>Standardized Test Practice</i> 290 #8, #9, #20, #21 <i>Try These Exercises</i> 260, 266, 270 #1-#4, 278</p> <p>Annotated Teacher's Edition: CE 259, 265, 269, 277; TT 267, 276</p>
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	<p>Student Edition: <i>Are You Ready?</i> 242 #1-#9, 519 #13-#16 <i>Example</i> 63, 595 <i>Practice Exercises</i> 65 #17-#19, 596 #15-#22 <i>Review and Practice Your Skills</i> 598 #22-#28 <i>Try These Exercises</i> 64 #5, 596 #4, #5</p> <p>Annotated Teacher's Edition: CE 63, 595</p>
4. Analyze change in various contexts	
A Analyze change	
analyze exponential and logarithmic functions by investigating rates of change, intercepts and asymptotes	<p>Student Edition: 576, 600 <i>Example</i> 595 <i>Extended Practice Exercises</i> 603</p> <p>Annotated Teacher's Edition: DI 595</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	Student Edition: 618 <i>Build Understanding</i> 614, 618 <i>Example</i> 614, 615, 618, 619 <i>Extra Practice</i> 707-708 <i>Practice Exercises</i> 616, 620-621 <i>Review and Practice Your Skills</i> 622-623 <i>Try These Exercises</i> 616, 620 Annotated Teacher's Edition: CE 615, 619; DI 615; QA 620, TT 616
B Apply geometric relationships	
C Compose and decompose shapes	
2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems	
A Use coordinate systems	
3. Apply transformations and use symmetry to analyze mathematical situations	
A Use transformations on objects	
B Use transformations on functions	
translate, dilate and reflect <u>functions</u>	See Glencoe's <i>Algebra 2</i> © 2008 Student Edition: 284, 285, and 287
C Use symmetry	

STANDARDS	PAGE REFERENCES
4. Use visualization, spatial reasoning and geometric modeling to solve problems	
A Recognize and draw three-dimensional representations	
B Draw and use visual models	
<p>*draw or use <u>visual models</u> to represent and solve problems</p>	<p>Student Edition: <i>MathWorks</i> 113, 133, 159, 177, 211, 435, 453 <i>Practice Exercises</i> 217, 327 <i>Problem</i> 216, 326 <i>Try These Exercises</i> 216, 326 Annotated Teacher's Edition: DI 104, 110, 112, 114, 115, 152, 153, 155, 177, 230, 300, 442; EL 191, 205, 207, 208, 217, 309; FG 149, 172, 302</p>
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	
C Apply geometric measurements	
D Analyze precision	
<p>apply concepts of successive approximation</p>	<p>Student Edition: 53 <i>Example</i> 53 <i>Practice Exercises</i> 54 #14, #15 <i>Review and Practice Your Skills</i> 60 #11-#16 <i>Try These Exercises</i> 54 #6 Annotated Teacher's Edition: CE 53</p>

STANDARDS	PAGE REFERENCES
E Use relationships within a measurement system	
<p>*use <u>unit analysis</u> to solve problems involving rates, such as speed, density or population density</p>	<p>Student Edition: <i>Example 203</i> <i>Practice Exercises 204 #11-#18</i> <i>Try These Exercises 204 #1-#4</i></p> <p>Also see Glencoe's <i>Algebra 1</i> © 2008. Student Edition: 591, 596</p>
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	
B Classify and organize data	
C Represent and interpret data	
<p>select and use appropriate graphical representation of data and given <u>one-variable quantitative data</u>, describe its shape and calculate <u>summary statistics</u></p>	<p>The following page reference involves distribution and can be expanded to meet this standard. Student Edition: <i>Extended Practice Exercises 415</i></p>
2. Select and use appropriate statistical methods to analyze data	
A Describe and analyze data	
<p>apply statistical measures of center to solve problems</p>	<p>Student Edition: 83 <i>Data Activity 381 #3</i> <i>Example 83</i> <i>Extended Practice Exercises 85</i> <i>Practice Exercises 85</i> <i>Try These Exercises 84</i> Annotated Teacher's Edition: CE 83; EL 83</p>
B Compare data representations	
C Represent data algebraically	
<p>given a scatterplot, determine a type of function which models the data</p>	<p>The diagrams in the following page references can be expanded to meet this standard. Student Edition: 406, 408, 418, 419, 518, 519</p>

STANDARDS	PAGE REFERENCES
3. Develop and evaluate inferences and predictions that are based on data	
A Develop and evaluate inferences	
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>	Student Edition: 385 <i>Example</i> 385 <i>Extended Practice Exercises</i> 415 Annotated Teacher's Edition: CE 385
B Use and describe compound events	
use and describe the concepts of conditional probability and independent events and how to compute the probability of a <u>compound event</u>	Student Edition: <i>Build Understanding</i> 392, 396 <i>Chapter Review</i> 417 #21-#28 <i>Example</i> 392, 393, 396, 397 <i>Extra Practice</i> 690, 691 <i>Practice Exercise</i> 394-395, 398-399 <i>Review and Practice Your Skills</i> 400 <i>Standardized Test Practice</i> 420 #10, #19 <i>Try These Exercises</i> 394, 398 Annotated Teacher's Edition: CE 393, 397; DI 397; QA 394, 398; TT 392, 393, 396