



# Geometry

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STANDARDS	PAGE REFERENCES
<p><b>Standard 1: Number and Computation</b>  <b>The student uses numerical and computational concepts and procedures in a variety of situations.</b></p>	
<p><b>Benchmark 1: Number Sense – The student demonstrates number sense for real numbers and algebraic expressions in a variety of situations.</b></p>	
<p>1. knows, explains, and uses equivalent representations for real numbers and algebraic expressions including integers, fractions, decimals, percents, ratios; rational number bases with integer exponents; rational numbers written in scientific notation; absolute value; time; and money (2.4.K1a) (<b>\$</b>), e.g., <math>\sqrt{4}/2 = (\sqrt{2})</math>; <math>a^{(-2)} b^{(3)} = b^3/a^2</math>.</p>	<p><b>Student Edition:</b>            322 #37  <i>Prerequisite Skill</i> 154 #42-#46, 403 #40-#43, 422 #34, 446 #51-#55, 663 #44-#47  <i>Quick Check</i> 5 #11-#15, 727 #6-#9  <i>Standardized Test Practice</i> 74 #4, 123 #18, 131 #34, 197 #8, 216 #40, 262 #6, 446 #44, 462 #61, 541 #60, 586 #47, 626 #4, 764 #44</p>
<p>2. compares and orders real numbers and/or algebraic expressions and explains the relative magnitude between them (2.4.K1a) (<b>\$</b>), e.g., will <math>(5n)^2</math> always, sometimes, or never be larger than <math>5n</math>? The student might respond with <math>(5n)^2</math> is greater than <math>5n</math> if <math>n &gt; 1</math> and <math>(5n)^2</math> is smaller than <math>5n</math> if <math>0 &lt; n &lt; 1</math>.</p>	<p><b>Student Edition:</b>            280-287, 293 #35-#36, 301 #40-#41  <i>Graphing Calculator Lab</i> 295 #1, #5  <i>Mid-Chapter Quiz</i> 294 #6, #8-#10  <i>Prerequisite Skill</i> 11 #51-#56, 82 #46-#48, 278 #59-#62, 293 #41-#43  <i>Standardized Test Practice</i> 287 #52, 293 #34  <i>Study Guide and Review</i> 311 5-2  <b>Teacher Wraparound Edition</b>            AE 281, 283</p>

STANDARDS	PAGE REFERENCES
3. knows and explains what happens to the product or quotient when a real number is multiplied or divided by (2.4.K1a): <ol style="list-style-type: none"> <li>a rational number greater than zero and less than one,</li> <li>a rational number greater than one,</li> <li>a rational number less than zero.</li> </ol>	See Glencoe's <i>Algebra 1</i> © 2008.
<p style="text-align: center;"><b>Benchmark 2: Number Systems and Their Properties – The student demonstrates an understanding of the real number system; recognizes, applies, and explains their properties, and extends these properties to algebraic expressions.</b></p>	
1. explains and illustrates the relationship between the subsets of the real number system [natural (counting) numbers, whole numbers, integers, rational numbers, irrational numbers] using mathematical models (2.4.K1a), e.g., number lines or Venn diagrams.	See Glencoe's <i>Algebra 1</i> © 2008.
2. identifies all the subsets of the real number system [natural (counting) numbers, whole numbers, integers, rational numbers, irrational numbers] to which a given number belongs (2.4.K1m).	See Glencoe's <i>Algebra 1</i> © 2008.
3. ▲ names, uses, and describes these properties with the real number system and demonstrates their meaning including the use of concrete objects (2.4.K1a) ( <b>\$</b> ): <ol style="list-style-type: none"> <li>commutative (<math>a + b = b + a</math> and <math>ab = ba</math>), associative [<math>a + (b + c) = (a + b) + c</math> and <math>a(bc) = (ab)c</math>], distributive [<math>a(b + c) = ab + ac</math>], and substitution properties (if <math>a = 2</math>, then <math>3a = 3 \times 2 = 6</math>);</li> <li>identity properties for addition and multiplication and inverse properties of addition and multiplication (additive identity: <math>a + 0 = a</math>, multiplicative identity: <math>a \cdot 1 = a</math>, additive inverse: <math>+5 + ^-5 = 0</math>, multiplicative inverse: <math>8 \times 1/8 = 1</math>);</li> <li>symmetric property of equality (if <math>a = b</math>, then <math>b = a</math>);</li> <li>addition and multiplication properties of equality (if <math>a = b</math>, then <math>a + c = b + c</math> and if <math>a = b</math>, then <math>ac = bc</math>) and inequalities (if <math>a &gt; b</math>, then <math>a + c &gt; b + c</math> and if <math>a &gt; b</math>, and <math>c &gt; 0</math> then <math>ac &gt; bc</math>);</li> <li>zero product property (if <math>ab = 0</math>, then <math>a = 0</math> and/or <math>b = 0</math>).</li> </ol>	<p><b>Student Edition:</b>            111-116, 123 #19-#22, 131 #37  <i>Practice Test</i> 137 #13-#14  <i>Standardized Test Practice</i> 139 #7  <i>Study Guide and Review</i> 135 2-6</p> <p><b>Teacher Wraparound Edition</b>            A 117; AE 112-113; PAP 117</p>

STANDARDS	PAGE REFERENCES
<p>4. uses and describes these properties with the real number system (2.4.K1a) (<b>\$</b>):</p> <p>a. transitive property (if <math>a = b</math> and <math>b = c</math>, then <math>a = c</math>),</p> <p>b. reflexive property (<math>a = a</math>).</p>	<p><b>Student Edition:</b> 111-116, 123 #22, 131 #37 <i>Practice Test</i> 137 #14 <i>Study Guide and Review</i> 135 #33-#34, #37-#38</p> <p><b>Teacher Wraparound Edition</b> A 117; AE 113 #4; PAP 117</p>
<p><b>Benchmark 3: Estimation – The student uses computational estimation with real numbers in a variety of situations.</b></p>	
<p>1. estimates real number quantities using various computational methods including mental math, paper and pencil, concrete objects, and/or appropriate technology (2.4.K1a) (<b>\$</b>).</p>	<p><b>Student Edition:</b> 52 Test-Taking Tip, 161 #37, 561 #77, 660 Study Tip, 662 #23, #26-#27, 694 Study Tip, 707 Example 1 Check, 745 Test-Taking Tip <i>Geometry Lab</i> 737 <i>Mid-Chapter Quiz</i> 698 #5 <i>Study Guide and Review</i> 767 #25</p>
<p>2. uses various estimation strategies and explains how they were used to estimate real number quantities and algebraic expressions (2.4.K1a) (<b>\$</b>).</p>	<p><b>Student Edition:</b> 52 Test-Taking Tip, 161 #37, 561 #77, 660 Study Tip, 662 #23, #26-#27, 694 Study Tip, 707 Example 1 Check, 745 Test-Taking Tip <i>Geometry Lab</i> 737 <i>Mid-Chapter Quiz</i> 698 #5 <i>Study Guide and Review</i> 767 #25</p>
<p>3. knows and explains why a decimal representation of an irrational number is an approximate value (2.4.K1a).</p>	<p>This standard can be met during classroom discussion using the following examples; these contain irrational numbers as decimals or as exact answers:</p> <p><b>Student Edition:</b> 556-557 Examples 4 and 5</p> <p><b>Teacher Wraparound Edition</b> AE 557</p> <p>The following pages reference irrational numbers.</p> <p><b>Student Edition:</b> 51 Example 2b, 63 Example 3, 651 Example 2, 693-697, 706-710, 711-717, 730-731 Examples 3 and 4, 739 Examples 2 and 3, 743-748 <i>Geometry Lab</i> 556 #2</p> <p><b>Teacher Wraparound Edition</b> AE 51 #2B, 63, 651, 694, 707-708, 712-714, 730-731, 739, 744-745</p>

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<p>4. knows and explains between which two consecutive integers an irrational number lies (2.4.K1a).</p>	<p>See Glencoe's <i>Algebra 1</i> © 2008.</p>
<p><b>Benchmark 4: Computation – The student models, performs, and explains computation with real numbers and polynomials in a variety of situations.</b></p>	
<p>1. computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology (2.4.K1a) (<b>\$</b>).</p>	<p>This standard can be met throughout the text. Examples are found on the following pages:</p> <p><b>Student Edition:</b>  15 Example 4, 21 Example 1, 112 Study Tip, 168 Example 5b, 357 Example 3, 418 Example 4, 441 Example 1, 565 Example 3, 687 Example 2, 713 Example 2, 744 Example 2  <i>Geometry Lab</i> 651 #1  <i>Quick Check</i> 5 #6-#9, #11-#15  <i>Spreadsheet Lab</i> 324  <i>Standardized Test Practice</i> 293 #33, 323 #42, 339 #40</p> <p><b>Teacher Wraparound Edition</b>  AE 22, 382, 744</p>
<p>2. performs and explains these computational procedures (2.4.K1a):</p> <ol style="list-style-type: none"> <li>a. <b>N</b> addition, subtraction, multiplication, and division using the order of operations</li> <li>b. multiplication or division to find (<b>\$</b>): <ol style="list-style-type: none"> <li>i. a percent of a number, e.g., what is 0.5% of 10?</li> <li>ii. percent of increase and decrease, e.g., a college raises its tuition from \$1,320 per year to \$1,425 per year. What percent is the change in tuition?</li> <li>iii. percent one number is of another number, e.g., 89 is what percent of 82?</li> <li>iv. a number when a percent of the number is given, e.g., 80 is 32% of what number?</li> </ol> </li> <li>c. manipulation of variable quantities within an equation or inequality (2.4.K1d), e.g., <math>5x - 3y = 20</math> could be written as <math>5x - 20 = 3y</math> or <math>5x(2x + 3) = 8</math> could be written as <math>8/(5x) = 2x + 3</math>;</li> </ol>	<p><b>Student Edition:</b>  322 #37, 565 Example 3  <i>Prerequisite Skill</i> 97 #73-#75, 163 #75-#77, 403 #40-#43  <i>Prerequisite Skills</i> 780, 790, 798-799  <i>Quick Check</i> 5 #11-#15, 727 #6-#11  <i>Standardized Test Practice</i> 123 #18, 187 #35, 197 #8, 216 #40, 323 #42, 438 #50, 446 #44, 462 #61, 626 #4, 764 #44</p>

STANDARDS	PAGE REFERENCES
<p>Continued from cell above.</p> <p>d. simplification of radical expressions (without rationalizing denominators) including square roots of perfect square monomials and cube roots of perfect cubic monomials;</p> <p>e. simplification or evaluation of real numbers and algebraic monomial expressions raised to a whole number power and algebraic binomial expressions squared or cubed;</p> <p>f. simplification of products and quotients of real number and algebraic monomial expressions using the properties of exponents;</p> <p>g. matrix addition (<b>\$</b>), e.g., when computing (with one operation) a building's expenses (data) monthly, a matrix is created to include each of the different expenses; then at the end of the year, each type of expense for the building is totaled;</p> <p>h. scalar-matrix multiplication (<b>\$</b>), e.g., if a matrix is created with everyone's salary in it, and everyone gets a 10% raise in pay; to find the new salary, the matrix would be multiplied by 1.1.</p>	<p><b>Student Edition:</b>  322 #37, 565 Example 3  <i>Prerequisite Skill</i> 97 #73-#75, 163 #75-#77, 403 #40-#43  <i>Prerequisite Skills</i> 780, 790, 798-799  <i>Quick Check</i> 5 #11-#15, 727 #6-#11  <i>Standardized Test Practice</i> 123 #18, 187 #35, 197 #8, 216 #40, 323 #42, 438 #50, 446 #44, 462 #61, 626 #4, 764 #44</p>
<p>3. finds prime factors, greatest common factor, multiples, and the least common multiple of algebraic expressions (2.4.K1b).</p>	<p><b>Student Edition:</b>  <i>Prerequisite Skills</i> 796-797  <i>Standardized Test Practice</i> 223 #37, 485 #44, 549 #9</p>

STANDARDS	PAGE REFERENCES
<p><b>Standard 2: Algebra</b></p>	
<p><b>The student uses algebraic concepts and procedures in a variety of situations.</b></p>	
<p><b>Benchmark 1: Patterns – The student recognizes, describes, extends, develops, and explains the general rule of a pattern in a variety of situations.</b></p>	
<p>1. identifies, states, and continues the following patterns using various formats including numeric (list or table), algebraic (symbolic notation), visual (picture, table, or graph), verbal (oral description), kinesthetic (action), and written</p> <p>a. arithmetic and geometric sequences using real numbers and/or exponents (2.4.K1a); e.g., radioactive half-lives;</p> <p>b. patterns using geometric figures (2.4.K1h);</p> <p>c. algebraic patterns including consecutive number patterns or equations of functions, e.g., <math>n</math>, <math>n + 1</math>, <math>n + 2</math>, ... or <math>f(n) = 2n - 1</math> (2.4.K1c,e);</p> <p>d. special patterns (2.4.K1a), e.g., Pascal's triangle and the Fibonacci sequence.</p>	<p><b>Student Edition:</b> 65 #25, 78 Example 1, 80-81 #1-#2, #7-#16, #33-#35, 90 #56-#61, 318, 353 #36, 437 #42 <i>Geometry Lab</i> 447, 457 #3 <i>Graphing Calculator Lab</i> 387, 455</p> <p><b>Teacher Wraparound Edition</b> AE 79 #1; DI 521; PAP 82</p>
<p>2. generates and explains a pattern (2.4.K1f).</p>	<p><b>Student Edition:</b> 65 #25, 78 Example 1, 80-81 #1-#2, #7-#16, #33-#35, 90 #56-#61, 318, 353 #36, 437 #42 <i>Geometry Lab</i> 447, 457 #3 <i>Graphing Calculator Lab</i> 387, 455</p> <p><b>Teacher Wraparound Edition</b> AE 79 #1; DI 521; PAP 82</p>
<p>3. classifies sequences as arithmetic, geometric, or neither.</p>	<p>Sequences can be found on the following pages: <b>Student Edition:</b> 78 Example 1, 80-81 #1-#2, #7-#16, 90 #56-#61 <i>Graphing Calculator Lab</i> 387</p> <p><b>Teacher Wraparound Edition</b> AE 79 #1; PAP 82</p>
<p>4. defines (2.4.K1a):</p> <p>a. a recursive or explicit formula for arithmetic sequences and finds any particular term,</p> <p>b. a recursive or explicit formula for geometric sequences and finds any particular term.</p>	<p>Finding a formula for the nth term in a sequence can be found on the following pages: <b>Student Edition:</b> 81 #35, 318</p>

## STANDARDS

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**Benchmark 2: Variables, Equations, and Inequalities – The student uses variables, symbols, real numbers, and algebraic expressions to solve equations and inequalities in variety of situations.**

<p>1. knows and explains the use of variables as parameters for a specific variable situation (2.4.K1f), e.g., the <math>m</math> and <math>b</math> in <math>y = mx + b</math> or the <math>h</math>, <math>k</math>, and <math>r</math> in <math>(x - h)^2 + (y - k)^2 = r^2</math>.</p>	<p><b>Student Edition:</b> 165-170, 179 #39-#42, 187 #39-#43, 614-618, 619 #45 <i>Practice Test</i> 625 #19 <i>Standardized Test Practice</i> 197 #10, 627 #13c <i>Study Guide and Review</i> 193 3-4, 624 10-8 <b>Teacher Wraparound Edition</b> A 619; AE 166-167, 615-616</p>
<p>2. manipulates variable quantities within an equation or inequality (2.4.K1e), e.g., <math>5x - 3y = 20</math> could be written as <math>5x - 20 = 3y</math> or <math>5x(2x + 3) = 8</math> could be written as <math>8/(5x) = 2x + 3</math>.</p>	<p><b>Student Edition:</b> <i>Prerequisite Skill</i> 97 #73-#75, 163 #75-#77 <i>Prerequisite Skills</i> 781-784 <i>Quick Check</i> 553 #5 <i>Standardized Test Practice</i> 446 #44, 613 #33, 626 #4, 656 #54, 710 #34</p>
<p>3. solves (2.4.K1d) (<b>\$</b>):</p> <ol style="list-style-type: none"> <li><b>N</b> linear equations and inequalities both analytically and graphically;</li> <li>quadratic equations with integer solutions (may be solved by trial and error, graphing, quadratic formula, or factoring);</li> <li><b>▲N</b> systems of linear equations with two unknowns using integer coefficients and constants;</li> <li>radical equations with no more than one inverse operation around the radical expression;</li> <li>equations where the solution to a rational equation can be simplified as a linear equation with a nonzero denominator, e.g., <math>\frac{3}{(x + 2)} = \frac{5}{(x - 3)}</math>.</li> <li>equations and inequalities with absolute value quantities containing one variable with a special emphasis on using a number line and the concept of absolute value.</li> <li>exponential equations with the same base without the aid of a calculator or computer, e.g., <math>3^{x+2} = 3^5</math>.</li> </ol>	<p><b>Student Edition:</b> 286 #48, 610 Example 4 <i>Prerequisite Skill</i> 29 #72-#77, 38 #58-#63, 109 #32-#35, 577 #58-#61, 606 #55-#57 <i>Prerequisite Skills</i> 781-784, 788-789, 797 Example 4 <i>Quick Check</i> 77 #9-#15, 201 #1-#4, 553 #1-#4, #9-#12 <i>Standardized Test Practice</i> 11 #49, 255 #35, 293 #33, 403 #33, 438 #49, 462 #60 <b>Teacher Wraparound Edition</b> AE 610</p>

STANDARDS	PAGE REFERENCES
<b>Benchmark 3: Functions – The student analyzes functions in a variety of situations.</b>	
<p>1. evaluates and analyzes functions using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or other appropriate technology (2.4.K1a,d-f).</p>	<p>See Glencoe’s <i>Algebra 1</i> © 2008.  <b>Student Edition:</b>            156-161, 166 ex 2, 168 #7-#8, 169 #25-#28, 170 #47, 179 #43-#48,  <i>Graphing Calculator Lab</i> 155  <b>Teacher Wraparound Edition</b>            AE 157158, 159; PA 163</p>
<p>2. matches equations and graphs of constant and linear functions and quadratic functions limited to <math>y = ax^2 + c</math> (2.4.K1d,f).</p>	<p><b>Student Edition:</b>  <i>Standardized Test Practice</i> 314 #2, 367 #29, 671 #34            Matching equations to tables can be found on the following pages:  <b>Student Edition:</b>  <i>Standardized Test Practice</i> 663 #34, 735 #36</p>
<p>3. determines whether a graph, list of ordered pairs, table of values, or rule represents a function (2.4.K1e-f).</p>	<p><b>Student Edition:</b>  <i>Standardized Test Practice</i> 196 #3</p>
<p>4. determines x- and y-intercepts and maximum and minimum values of the portion of the graph that is shown on a coordinate plane (2.4.K1f).</p>	<p><b>Student Edition:</b>  <i>Standardized Test Practice</i> 147 #55            Determining the x-intercept given the equation can be found on the following page:  <b>Student Edition:</b>  <i>Standardized Test Practice</i> 287 #51</p>
<p>5. identifies domain and range of:            a. relationships given the graph or table (2.4.K1e-f),            b. linear, constant, and quadratic functions given the equation(s) (2.4.K1d).</p>	<p>See Glencoe’s <i>Algebra 1</i> © 2008.</p>
<p>6. ▲ recognizes how changes in the constant and/or slope within a linear function changes the appearance of a graph (2.4.K1f) (<b>\$</b>).</p>	<p><b>Student Edition:</b>  <i>Standardized Test Practice</i> 647 #61            The effect on slope of changing the appearance of a graph can be found on the following page:  <b>Student Edition:</b>  <i>Standardized Test Practice</i> 414 #55, 469 #28</p>
<p>7. uses function notation.</p>	<p>See Glencoe’s <i>Algebra 1</i> © 2008.</p>
<p>8. evaluates function(s) given a specific domain (<b>\$</b>).</p>	<p>See Glencoe’s <i>Algebra 1</i> © 2008.</p>

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9. describes the difference between independent and dependent variables and identifies independent and dependent variables ( <b>\$</b> ).	See Glencoe's <i>Algebra 1</i> © 2008.
<b>Benchmark 4: Models – The student develops and uses mathematical models to represent and justify mathematical relationships found in a variety of situations involving tenth grade knowledge and skills.</b>	
1. knows, explains, and uses mathematical models to represent and explain mathematical concepts, procedures, and relationships. Mathematical models include: <ol style="list-style-type: none"> <li>a. process models (concrete objects, pictures, diagrams, number lines, hundred charts, measurement tools, multiplication arrays, division sets, or coordinate grids) to model computational procedures, algebraic relationships, and mathematical relationships and to solve equations (1.1.K1-3, 1.2.K1, 1.2.K3-4, 1.3.K1-4, 1.4.K1, 1.4.K2a-b, 2.1.K1a, 2.1.K1d, 2.1.K2, 2.2.K4, 2.3.K1, 3.2.K1-3, 3.2.K6, 3.3.K1-4, 4.2.K3-4) (<b>\$</b>);</li> <li>b. factor trees to model least common multiple, greatest common factor, and prime factorization (1.4.K3);</li> <li>c. algebraic expressions to model relationships between two successive numbers in a sequence or other numerical patterns (2.1.K1c);</li> <li>d. equations and inequalities to model numerical and geometric relationships (1.4.K2c, 2.2.K3, 2.3.K1-2, 3.2.K7) (<b>\$</b>);</li> <li>e. function tables to model numerical and algebraic relationships (2.1.K1c, 2.2.K2, 2.3.K1, 2.3.K3, 2.3.K5) (<b>\$</b>);</li> <li>f. coordinate planes to model relationships between ordered pairs and equations and inequalities and linear and quadratic functions (2.2.K1, 2.3.K1-6, 3.4.K1-8) (<b>\$</b>);</li> <li>g. constructions to model geometric theorems and properties (3.1.K2, 3.1.K6);</li> <li>h. two- and three-dimensional geometric models (geoboards, dot paper, coordinate plane, nets, or solids) and real-world objects to model perimeter, area, volume, and surface area, properties of two- and three-dimensional figures, and isometric views of three-dimensional figures (2.1.K1b, 3.1.K1-8, 3.2.K1, 3.2.K4-5, 3.3.K1-4);</li> </ol>	This standard can be found throughout the book. Examples are on the following pages: <b>Student Edition:</b> 130 #27, 167 Example 5a, 186 #27-#32, 353 #30-#34 <i>Cross-Curricular Project</i> 764 <i>Geometry Lab</i> 128, 158, 358, 439 <i>Graphing Calculator Lab</i> 155 <i>Quick Check</i> 141 #9 <i>Reading Math</i> 224, 331 <i>Standardized Test Practice</i> 524 #37, 663 #34, 735 #36 <b>Teacher Wraparound Edition</b> DI 341, 499; FMC 481; PAP 117

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<p>Continued from cell above.</p> <ul style="list-style-type: none"> <li>i. scale drawings to model large and small real-world objects;</li> <li>j. Pascal's Triangle to model binomial expansion and probability;</li> <li>k. geometric models (spinners, targets, or number cubes), process models (concrete objects, pictures, diagrams, or coins), and tree diagrams to model probability (4.1.K1-3);</li> <li>l. frequency tables, bar graphs, line graphs, circle graphs, Venn diagrams, charts, tables, single and double stem-and-leaf plots, scatter plots, box-and-whisker plots, histograms, and matrices to organize and display data (4.2.K1, 4.2.K5-6) (<b>\$</b>);</li> <li>m. Venn diagrams to sort data and show relationships (1.2.K2).</li> </ul>	<p>This standard can be found throughout the book. Examples are on the following pages:</p> <p><b>Student Edition:</b>  130 #27, 167 Example 5a, 186 #27-#32, 353 #30-#34  <i>Cross-Curricular Project</i> 764  <i>Geometry Lab</i> 128, 158, 358, 439  <i>Graphing Calculator Lab</i> 155  <i>Quick Check</i> 141 #9  <i>Reading Math</i> 224, 331  <i>Standardized Test Practice</i> 524 #37, 663 #34, 735 #36</p> <p><b>Teacher Wraparound Edition</b>  DI 341, 499; FMC 481; PAP 117</p>
<p><b>Standard 3: Geometry</b>  <b>The student uses geometric concepts and procedures in a variety of situations.</b></p>	
<p><b>Benchmark 1: Geometric Figures and Their Properties – The student recognizes geometric figures and compares and justifies their properties of geometric figures in a variety of situations.</b></p>	
<p>1. recognizes and compares properties of two- and three-dimensional figures using concrete objects, constructions, drawings, appropriate terminology, and appropriate technology (2.4.K1h).</p>	<p><b>Student Edition:</b>  49-57, 60-66, 325-330, 340-346, 348-354, 356-362  <i>Geometry Lab</i> 67, 355  <i>Geometry Software Lab</i> 58-59  <i>Graphing Calculator Lab</i> 332  <i>Reading Math</i> 331  <i>Standardized Test Practice</i> 75 #10  <i>Study Guide and Review</i> 71 1-6, 72 1-7, 370 6-2, 371, 372 6-6</p> <p><b>Teacher Wraparound Edition</b>  A 66; AE 50-53, 61-63</p>
<p>2. discusses properties of regular polygons related to (2.4.K1g-h):</p> <ul style="list-style-type: none"> <li>a. angle measures,</li> <li>b. diagonals.</li> </ul>	<p><b>Student Edition:</b>  50 Example 1, 54 #1-#2, #7-#8, 318, 319 Examples 1 and 2, 320, 321-323  <i>Spreadsheet Lab</i> 324  <i>Study Guide and Review</i> 71 #30-#31</p> <p><b>Teacher Wraparound Edition</b>  AE 50, 319, 321</p>

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<p>3. recognizes and describes the symmetries (point, line, plane) that exist in three-dimensional figures (2.4.K1h).</p>	<p><b>Student Edition:</b> 684 #33-#37 Symmetries in two-dimensional figures can be found on the following pages: <b>Student Edition:</b> 500-503, 513, 514-515 #13-#14, #19-#20 <i>Study Guide and Review</i> 545 #17 <b>Teacher Wraparound Edition</b> AE 500 #4; DI 499; PAP 503</p>
<p>4. recognizes that similar figures have congruent angles, and their corresponding sides are proportional (2.4.K1h).</p>	<p><b>Student Edition:</b> 388-396, 397-403, 645 #44, 655 #43 <i>Mid-Chapter Quiz</i> 404 #11-#16 <i>Practice Test</i> 427 #4-#9 <i>Standardized Test Practice</i> 428 #1, #5 <i>Study Guide and Review</i> 425 7-2, 426 7-3 <b>Teacher Wraparound Edition</b> A 396; AE 389-391, 398-399; DI 399; PAP 396, 403</p>
<p>5. uses the Pythagorean Theorem to (2.4.K1h):</p> <ol style="list-style-type: none"> <li>determine if a triangle is a right triangle,</li> <li>find a missing side of a right triangle.</li> </ol>	<p><b>Student Edition:</b> 22 Example 2, 25-26 #3, #17-#22, 440-446, 538 Example 5, 589 Example 1, 701 Examples 2 and 3, 729 Example 1 <i>Practice Test</i> 491 #4-#9 <i>Prerequisite Skill</i> 705 #40-#42 <i>Standardized Test Practice</i> 492 #3-#4 <i>Study Guide and Review</i> 70 #15-#16, 487 8-2 <b>Teacher Wraparound Edition</b> AE 441-443; PAP 443</p>
<p>6. recognizes and describes (2.4.K1g-h):</p> <ol style="list-style-type: none"> <li>congruence of triangles using: Side-Side-Side (SSS), Angle-Side-Angle (ASA), Side-Angle-Side (SAS), and Angle-Angle-Side (AAS);</li> <li>the ratios of the sides in special right triangles: <math>30^\circ</math>-<math>60^\circ</math>-<math>90^\circ</math> and <math>45^\circ</math>-<math>45^\circ</math>-<math>90^\circ</math>.</li> </ol>	<p><b>Student Edition:</b> 217-223, 225-232, 234-241, 448-454 <i>Geometry Lab</i> 242-243, 447 <i>Practice Test</i> 261 #7-#10, #12, #15, 491 #7-#9 <i>Standardized Test Practice</i> 262 #1, #4 <i>Study Guide and Review</i> 258, 259 4-5, 488 8-3 <b>Teacher Wraparound Edition</b> A 232, 241, 454; AE 226-229, 235-237, 449-450</p>

STANDARDS	PAGE REFERENCES
<p>7. recognizes, describes, and compares the relationships of the angles formed when parallel lines are cut by a transversal (2.4.K1h).</p>	<p><b>Student Edition:</b>            142-146, 149-154, 163 #51-#56, 170 #49-#54  <i>Geometry Software Lab</i> 148  <i>Mid-Chapter Quiz</i> 164 #5-#12  <i>Practice Test</i> 195 #1-#11, #16-#22  <i>Standardized Test Practice</i> 196 #1-#2, #4  <i>Study Guide and Review</i> 192  <b>Teacher Wraparound Edition</b>            A 154; AE 150-151; DI 150</p>
<p>8. recognizes and identifies parts of a circle: arcs, chords, sectors of circles, secant and tangent lines, central and inscribed angles (2.4.K1h).</p>	<p><b>Student Edition:</b>            563-569, 570-577, 578-586, 588-596, 599-606, 607-613  <i>Practice Test</i> 625 #6-#17, #22-#25  <i>Standardized Test Practice</i> 626-627 #1, #3, #11  <i>Study Guide and Review</i> 621 10-2, 622-623, 624 10-7  <b>Teacher Wraparound Edition</b>            A 606; AE 564-566, 571-573, 579-582, 589-592, 600-602; DI 565; FMC 601; PAP 586</p>
<p><b>Benchmark 2: Measurement and Estimation – The student estimates, measures and uses geometric formulas in a variety of situations.</b></p>	
<p>1. determines and uses real number approximations (estimations) for length, width, weight, volume, temperature, time, distance, perimeter, area, surface area, and angle measurement using standard and nonstandard units of measure (2.4.K1a) (\$).</p>	<p><b>Student Edition:</b>            52 Test-Taking Tip, 660 Study Tip, 662 #23, #26-#27, 694 Study Tip, 707 Example 1 Check, 709 #23-#26, 745 Test-Taking Tip  <b>Teacher Wraparound Edition</b>            PAP 443</p>
<p>2. selects and uses measurement tools, units of measure, and level of precision appropriate for a given situation to find accurate real number representations for length, weight, volume, temperature, time, distance, area, surface area, mass, midpoint, and angle measurements (2.4.K1a) (\$).</p>	<p><b>Student Edition:</b>            13-20, 31-38, 65 #27, 353 #27, 734 #28, 741 #24, 746 #22, 756 #34  <i>Geometry Lab</i> 320, 355 #1, 439 #1, 556  <i>Geometry Software Lab</i> 58-59  <i>Prerequisite Skill</i> 509 #58-#63  <b>Teacher Wraparound Edition</b>            A 57; DI 271, 466; FMC 730; PAP 320, 474</p>

STANDARDS	PAGE REFERENCES
<p>3. approximates conversions between customary and metric systems given the conversion unit or formula (2.4.K1a).</p>	<p><b>Student Edition:</b> 386 #62 Converting units of measure within the same system can be found on the following pages: <b>Student Edition:</b> <i>Prerequisite Skills</i> 776-777 <i>Standardized Test Practice</i> 685 #44</p>
<p>4. states, recognizes, and applies formulas for (2.4.K1h) (<b>\$</b>):</p> <ol style="list-style-type: none"> <li>perimeter and area of squares, rectangle, and triangles;</li> <li>circumference and area of circles; volume of rectangular solids.</li> </ol>	<p><b>Student Edition:</b> 51-57, 63-65 #4, #12-#13, #16, #22, 66 #36-#39, 554-560, 638-639, 651, 728-729, 732-733 #7-#8, #16, 738, 740 #1, #6-#7 <i>Graphing Calculator Lab</i> 637 Activity 1 <i>Study Guide and Review</i> 72 #39, 673 11-2, 766 #12 <b>Teacher Wraparound Edition</b> AE 51-52, 557, 639, 651, 729 #2; PAP 561</p>
<p>5. uses given measurement formulas to find perimeter, area, volume, and surface area of two- and three-dimensional figures (regular and irregular) (2.4.K1h).</p>	<p><b>Student Edition:</b> 51-57, 62-66, 556-560, 630-663, 686-717, 728-748 <i>Study Guide and Review</i> 72, 621 10-1, 673-674, 720-722, 766-767 <b>Teacher Wraparound Edition</b> AE 51-53, 62 #2, 63, 557, 631-633, 650-651, 687-688; PAP 735</p>
<p>6. recognizes and applies properties of corresponding parts of similar and congruent figures to find measurements of missing sides (2.4.K1a).</p>	<p><b>Student Edition:</b> 382 Example 4, 383-384 #7, #29, 390 Example 4, 392-394 #6, #14-#19, #23-#25, 399 Example 2, 400 Example 3, 400-402 #4-#6, #11-#12, #14-#15, #16-#17 <i>Practice Test</i> 427 #9 <i>Study Guide and Review</i> 425 #14, 426 7-3 <b>Teacher Wraparound Edition</b> A 403; AE 382 #4, 390 #4, 399; DI 399</p>
<p>7. knows, explains, and uses ratios and proportions to describe rates of change (2.4.K1d) (<b>\$</b>), e.g., miles per gallon, meters per second, calories per ounce, or rise over run.</p>	<p><b>Student Edition:</b> 156-158, 160-161 #1-#5, #9-#12, #17-#22, #37, #40, 170 #48, 187 #44, 232 #42-#43, 339 #40 <i>Graphing Calculator Lab</i> 155 <i>Mid-Chapter Quiz</i> 164 #19 <i>Quick Check</i> 379 #8 <b>Teacher Wraparound Edition</b> AE 157-158; PAP 382</p>

STANDARDS	PAGE REFERENCES
<p><b>Benchmark 3: Transformational Geometry – The student recognizes and applies transformations on two- and three-dimensional figures in a variety of situations.</b></p>	
<p>1. describes and performs single and multiple transformations [reflection, rotation, translation, reduction (contraction/shrinking), enlargement (magnification/growing)] on two- and three-dimensional figures (2.4.K1a).</p>	<p><b>Student Edition:</b>            497-503, 504-509, 510-517, 525-532, 760-761, 761-763 #5-#6, #21-#26, #29-#32, #36-#37  <i>Geometry Lab</i> 496  <i>Mid-Chapter Quiz</i> 518  <i>Study Guide and Review</i> 544, 545 9-3, 546 9-5  <b>Teacher Wraparound Edition</b>            A 509; AE 498-499, 505-506, 511-512, 526-528, 760-761; DI 505; PAP 528; T 497</p>
<p>2. recognizes a three-dimensional figure created by rotating a simple two-dimensional figure around a fixed line (2.4.K1a), e.g., a rectangle rotated about one of its edges generates a cylinder; an isosceles triangle rotated about a fixed line that runs from the vertex to the midpoint of its base generates a cone.</p>	<p>See Glencoe’s <i>Algebra 1</i> © 2008.</p>
<p>3. generates a two-dimensional representation of a three-dimensional figure (2.4.K1a).</p>	<p><b>Student Edition:</b>            65 #29, 146 #49, 680-684, 697 #37-#38  <i>Geometry Lab</i> 142  <i>Mid-Chapter Quiz</i> 698 #1-#2  <b>Teacher Wraparound Edition</b>            AE 681; PAP 685</p>
<p>4. determines where and how an object or a shape can be tessellated using single or multiple transformations and creates a tessellation (2.4.K1a).</p>	<p><b>Student Edition:</b>            519-524, 532 #51-#54, 541 #65-#66  <i>Practice Test</i> 547 #10-#14  <i>Study Guide and Review</i> 545 9-4  <b>Teacher Wraparound Edition</b>            AE 520-521; DI 521; PAP 520</p>
<p><b>Benchmark 4: Geometry from an Algebraic Perspective – The student uses an algebraic perspective to analyze the geometry of two- and three-dimensional figures in a variety of situations.</b></p>	
<p>1. recognizes and examines two- and three-dimensional figures and their attributes including the graphs of functions on a coordinate plane using various methods including mental math, paper and pencil, concrete objects, and graphing utilities or other appropriate technology (2.4.K1f).</p>	<p><b>Student Edition:</b>            53 Example 4, 204-205 Example 4, 219 Example 2, 251-255, 336 Example 5, 343 Example 4, 350 Example 3, 357 Example 3, 363-367, 614-618  <i>Reading Math</i> 279  <i>Study Guide and Review</i> 258 4-4, 260  <b>Teacher Wraparound Edition</b>            AE 53, 204 #4, 219, 336 #5, 343, 350 #3, 357 #3</p>

STANDARDS	PAGE REFERENCES
2. determines if a given point lies on the graph of a given line or parabola without graphing and justifies the answer (2.4.K1f).	See Glencoe's <i>Algebra 1</i> © 2008.
3. calculates the slope of a line from a list of ordered pairs on the line and explains how the graph of the line is related to its slope (2.4.K1f).	<p><b>Student Edition:</b>  156-158, 160 #1-#5, #9-#12, #17-#20,  179 #43-#46, 278 #52-#54  <i>Graphing Calculator Lab</i> 155  <i>Quick Check</i> 379 #6-#7  <i>Study Guide and Review</i> 193 3-3</p> <p><b>Teacher Wraparound Edition</b>  AE 157-158; TNT 157</p>
4. ▲ finds and explains the relationship between the slopes of parallel and perpendicular lines (2.4.K1f), e.g., the equation of a line $2x + 3y = 12$ . The slope of this line is $-2/3$ . What is the slope of a line perpendicular to this line?	<p><b>Student Edition:</b>  158-159, 160-162 #6-#8, #13-#16, #23-#28,  #30-#31, #33-#34, #36, #48-#49, 179 #47-#48,  339 #50-#51  <i>Mid-Chapter Quiz</i> 164 #13-#15, #17-#18  <i>Practice Test</i> 195 #13-#14  <i>Quick Check</i> 317 #3-#4  <i>Standardized Test Practice</i> 429 #8, 771 #10  <i>Study Guide and Review</i> 193 3-3</p> <p><b>Teacher Wraparound Edition</b>  A 163; AE 159</p>
5. uses the Pythagorean Theorem to find distance (may use the distance formula) (2.4.K1f).	<p><b>Student Edition:</b>  22 Example 2, 25-28 #3-#4, #17-#28, #52-#55,  38 #49-#51, 47 #44-#49  <i>Mid-Chapter Quiz</i> 39 #5-#11  <i>Practice Test</i> 73 #8-#10  <i>Prerequisite Skill</i> 346 #53-#55  <i>Study Guide and Review</i> 70 #15-#18</p> <p><b>Teacher Wraparound Edition</b>  AE 22 #2</p>
6. ▲ recognizes the equation of a line and transforms the equation into slope-intercept form in order to identify the slope and y-intercept and uses this information to graph the line (2.4.K1f).	<p>Writing the equation of a line in slope-intercept form can be found on the following pages:</p> <p><b>Student Edition:</b>  162 #46, 165-170, 179 #39-#42, 187 #39-#43,  365 Example 4  <i>Standardized Test Practice</i> 197 #10, 771 #10  <i>Study Guide and Review</i> 193 #20, #22-#23</p> <p><b>Teacher Wraparound Edition</b>  AE 166 #1, #3-#4, 167</p>

STANDARDS	PAGE REFERENCES
<p>7. recognizes the equation <math>y = ax^2 + c</math> as a parabola; represents and identifies characteristics of the parabola including opens upward or opens downward, steepness (wide/narrow), the vertex, maximum and minimum values, and line of symmetry; and sketches the graph of the parabola (2.4.K1f).</p>	<p>Matching the graph of a parabola to its equation in the form <math>y = ax^2 + c</math> can be found on the following page:  <b>Student Edition:</b>  <i>Standardized Test Practice</i> 671 #34</p>
<p>8. explains the relationship between the solution(s) to systems of equations and systems of inequalities in two unknowns and their corresponding graphs (2.4.K1f), e.g., for equations, the lines intersect in either one point, no points, or infinite points; and for inequalities, all points in double-shaded areas are solutions for both inequalities.</p>	<p>Solving systems of equations can be found on the following pages:  <b>Student Edition:</b>            273-274 Example 3, 274-275 #3, #16-#18  <i>Prerequisite Skills</i> 788-789  <i>Standardized Test Practice</i> 255 #35, 403 #33  <b>Teacher Wraparound Edition</b>            AE 273</p>
<p><b>Standard 4: Data</b>  <b>The student uses concepts and procedures of data analysis in a variety of situations.</b></p> <p><b>Benchmark 1: Probability – The student applies probability theory to draw conclusions, generate convincing arguments, make predictions and decisions, and analyze decisions including the use of concrete objects in a variety of situations.</b></p>	
<p>1. finds the probability of two independent events in an experiment, simulation, or situation (2.4.K1k) (\$) .</p>	<p>Probability and inscribed arcs and areas can be found on the following pages:  <b>Student Edition:</b>            300 #30, 559 #53-#54, 580-581 Example 3, 583-584 #3, #11-#14, 665-671, 741 #20, 747 #24  <i>Mid-Chapter Quiz</i> 587 #19  <i>Practice Test</i> 675 #11-#13  <i>Standardized Test Practice</i> 742 #31  <i>Study Guide and Review</i> 674 11-5  <b>Teacher Wraparound Edition</b>            A 671; AE 580 #3, 666-667</p>

STANDARDS	PAGE REFERENCES
<p>2. finds the conditional probability of two dependent events in an experiment, simulation, or situation (2.4.K1k).</p>	<p>Probability and inscribed arcs and areas can be found on the following pages:  <b>Student Edition:</b>            300 #30, 559 #53-#54, 580-581 Example 3, 583-584 #3, #11-#14, 665-671, 741 #20, 747 #24  <i>Mid-Chapter Quiz</i> 587 #19  <i>Practice Test</i> 675 #11-#13  <i>Standardized Test Practice</i> 742 #31  <i>Study Guide and Review</i> 674 11-5  <b>Teacher Wraparound Edition</b>            A 671; AE 580 #3, 666-667</p>
<p>3. ▲ explains the relationship between probability and odds and computes one given the other (2.4.K1a,k).</p>	<p>See Glencoe's <i>Algebra 1</i> © 2008.</p>
<p><b>Benchmark 2: Statistics – The student collects, organizes, displays, explains, and interprets numerical (rational) and non-numerical data sets in a variety of situations.</b></p>	
<p>1. organizes, displays, and reads quantitative (numerical) and qualitative (non-numerical) data in a clear, organized, and accurate manner including a title, labels, categories, and rational number intervals using these <b>data displays</b> (2.4.K1l):</p> <ol style="list-style-type: none"> <li>frequency tables and line plots;</li> <li>bar, line, and circle graphs;</li> <li>Venn diagrams or other pictorial displays;</li> <li>charts and tables;</li> <li>stem-and-leaf plots (single and double);</li> <li>scatter plots;</li> <li>box-and-whiskers plots;</li> <li>histograms.</li> </ol>	<p><b>Student Edition:</b>            85-87, 88-89 #7-#12, #25-#42, #51, 90 #55, 104 #39-#41, 250 #44-#47, 278 #55, 565 Example 3, 567 #9, #29-#31  <i>Mid-Chapter Quiz</i> 110 #3, #6, 587 #9-#11  <i>Standardized Test Practice</i> 485 #45  <i>Study Guide and Review</i> 133 #16  <b>Teacher Wraparound Edition</b>            AE 86-87, 565 #3</p>
<p>2. explains how the reader's bias, measurement errors, and display distortions can affect the interpretation of data.</p>	<p>See Glencoe's <i>Algebra 1</i> © 2008.</p>
<p>3. calculates and explains the meaning of range, quartiles and interquartile range for a real number data set (2.4.K1a).</p>	<p>See Glencoe's <i>Algebra 1</i> © 2008.  <b>Student Edition:</b>            114 #45, 245 #35-#36, 254 #60</p>
<p>4. ▲ explains the effects of outliers on the measures of central tendency (mean, median, mode) and range and interquartile range of a real number data set (2.4.K1a).</p>	<p>See Glencoe's <i>Algebra 1</i> © 2008.</p>

STANDARDS	PAGE REFERENCES
5. ▲ approximates a line of best fit given a scatter plot and makes predictions using the graph or the equation of that line (2.4.K1k).	See Glencoe's <i>Algebra 1</i> © 2008.
6. compares and contrasts the dispersion of two given sets of data in terms of range and the shape of the distribution including (2.4.K1k): <ul style="list-style-type: none"> <li>a. symmetrical (including normal),</li> <li>b. skew (left or right),</li> <li>c. bimodal,</li> <li>d. uniform (rectangular).</li> </ul>	See Glencoe's <i>Algebra 1</i> © 2008.