



Geometry

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STANDARDS	PAGE REFERENCES
<p>Process Standard A: Students will develop their ability to solve problems by engaging in developmentally appropriate opportunities where there is a need to use various approaches to investigate and understand mathematical concepts in order to:</p>	
<ul style="list-style-type: none"> • Formulate their own problems • Find solutions to problems from everyday situations • Develop and apply strategies to solve a variety of problems • Integrate mathematical reasoning, communication and connections 	
<ul style="list-style-type: none"> • Generalize solutions and apply previous knowledge to new problem solving situations 	<p>Student Edition: 28 #56, 37 #37, 65 #27, 162 #44, 178 #35, 223 #33, 231 #30, 277 #40, 286 #46, 293 #30, 308 #29, 329 #31, 338 #35, 345 #37-#39, 361 #31, 367 #26, 395 #50-#52, 403 #30, 446 #40</p> <p>Teacher Wraparound Edition: A 278</p>
<ul style="list-style-type: none"> • Determine an efficient strategy, verify, interpret, and evaluate the results with respect to the original problem 	<p>Student Edition: 56 #50, 82 #39, 146 #50, 161 #43, 216 #37, 231 #38, 286 #47, 300 #33, 339 #36, 346 #43, 385 #42, 395 #48, 403 #29, 437 #45, 476 #34, 508 #36, 531 #46, 577 #48, 612 #29, 646 #57</p>
<ul style="list-style-type: none"> • Apply problem solving strategies until a solution is found or it is clear that no solution exists 	<p>This can be found in Glencoe's <i>Pre-Algebra</i> © 2008 on pages 6-10.</p>

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<ul style="list-style-type: none"> Interpret and solve a variety of mathematical problems by paraphrasing 	<p>Student Edition: 96 #48, 103 #32, 116 #32, 122 #15, 131 #32, 146 #53, 153 #32, 162 #47, 170 #45, 178 #36, 187 #33, 208 #43, 216 #38</p> <p><i>Reading Math</i> 98</p> <p>Teacher Wraparound Edition: A 98, 117, 123, 154, 163, 179, 187</p>
<ul style="list-style-type: none"> Identify necessary and extraneous information 	<p>This can be found in Glencoe's <i>Pre-Algebra</i> © 2008 on pages 6-10.</p>
<ul style="list-style-type: none"> Check the reasonableness of a solution 	<p>Student Edition: 56 #50, 82 #39, 146 #50, 161 #43, 216 #37, 231 #38, 286 #47, 300 #33, 339 #36, 346 #43, 385 #42, 395 #48, 403 #29, 437 #45, 476 #34, 508 #36, 531 #46, 577 #48, 612 #29, 646 #57</p>
<ul style="list-style-type: none"> Apply technology as a tool in problem solving situations 	<p>Student Edition: <i>Geometry Software Labs</i> 58-59, 148, 273, 433, 478, 511, 588 <i>Graphing Calculator Lab</i> 155, 180, 295, 332, 387, 455, 542, 637 <i>Spreadsheet Lab</i> 324, 736</p> <p>Teacher Wraparound Edition: GSL 433</p>
<ul style="list-style-type: none"> Apply combinations of proven strategies and previous knowledge to solve non-routine problems 	<p>Student Edition: 28 #56, 37 #37, 65 #27, 162 #44, 178 #35, 223 #33, 231 #30, 277 #40, 286 #46, 293 #30, 308 #29, 329 #31, 338 #35, 345 #37-#39, 361 #31, 367 #26, 395 #50-#52, 403 #30, 446 #40</p> <p>Teacher Wraparound Edition: A 278</p>

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<p>Process Standard B: Students will develop their ability to communicate mathematically by solving problems where there is a need to obtain information from the real world through reading, listening, and observing in order to:</p>	
<ul style="list-style-type: none"> • Translate information into mathematical language and symbols • Process information mathematically • Present results in written, oral, and visual formats • Discuss and exchange ideas about mathematics as a part of learning • Read a variety of fiction and nonfiction texts to learn about mathematics • Use mathematical notation to communicate and explain problems 	
<ul style="list-style-type: none"> • Use a variety of techniques to solve mathematical problems 	<p>Student Edition: 28 #56, 37 #37, 65 #27, 162 #44, 178 #35, 223 #33, 231 #30, 277 #40, 286 #46, 293 #30, 308 #29, 329 #31, 338 #35, 345 #37-#39, 361 #31, 367 #26, 395 #50-#52, 403 #30, 446 #40</p> <p>Teacher Wraparound Edition: A 278</p>
<ul style="list-style-type: none"> • Evaluate written and oral presentations in mathematics 	<p>Student Edition: 56 #50, 82 #39, 146 #50, 161 #43, 216 #37, 231 #38, 286 #47, 300 #33, 339 #36, 346 #43, 385 #42, 395 #48, 403 #29, 437 #45, 476 #34, 508 #36, 531 #46, 577 #48, 612 #29, 646 #57</p>
<ul style="list-style-type: none"> • Model and explain mathematical relationships using oral, written, graphic, and algebraic methods 	<p>Student Edition: 96 #48, 103 #32, 116 #32, 122 #15, 131 #32, 146 #53, 153 #32, 162 #47, 170 #45, 178 #36, 187 #33, 208 #43, 216 #38</p> <p><i>Reading Math 98</i></p> <p>Teacher Wraparound Edition: A 98, 117, 123, 154, 163, 179, 187</p>
<ul style="list-style-type: none"> • Communicate and evaluate mathematical thinking based on the use of definitions, properties, rules, and symbols in problem solving 	<p>Student Edition: 56 #50, 82 #39, 146 #50, 161 #43, 216 #37, 231 #38, 286 #47, 300 #33, 339 #36, 346 #43, 385 #42, 395 #48, 403 #29, 437 #45, 476 #34, 508 #36, 531 #46, 577 #48, 612 #29, 646 #57</p>
<ul style="list-style-type: none"> • Use everyday language, both orally and in writing, communicate strategies and solutions to problems using appropriate mathematical language 	<p>Student Edition: 96 #48, 103 #32, 116 #32, 122 #15, 131 #32, 146 #53, 153 #32, 162 #47, 170 #45, 178 #36, 187 #33, 208 #43, 216 #38</p> <p><i>Reading Math 98</i></p> <p>Teacher Wraparound Edition: A 98, 117, 123, 154, 163, 179, 187</p>

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<p>Process Standard C: Students will develop their ability to reason mathematically by solving problems where there is a need to investigate mathematical ideas and construct their own learning in all content areas in order to:</p>	
<ul style="list-style-type: none"> • Reinforce and extend their logical reasoning abilities • Reflect on, clarify, and justify their thinking • Ask questions to extend their thinking • Use patterns and relationships to analyze mathematical situations • Determine relevant, irrelevant, and/or sufficient information to solve mathematical problems 	
<ul style="list-style-type: none"> • Recognize and apply deductive and inductive reasoning 	<p>Student Edition: 78-82, 90 #56-#61, 99-104, 105-109, 117 #36-#37, 118-123, 133 #11-#13</p> <p>Teacher Wraparound Edition: A 82, 104, 109; AE 79, 80, 100, 101, 106, 107, 119, 120, 125, 127; DI 119</p>
<ul style="list-style-type: none"> • Review and refine the assumptions and steps used to derive conclusions in mathematical arguments 	<p>Student Edition: 47 #38, 79 ex 3, 80 #5-#6, 81 #25-#30, 109 #31, 110 #1-#2, 133 #11-#13, 134 #19-#22, 137 #1-#3, 138 #1</p> <p><i>Extra Practice Lesson 2-1 802</i> <i>Reading Math 98</i></p> <p>Teacher Wraparound Edition: AE 80, 82</p>
<ul style="list-style-type: none"> • Make and test conjectures about algebraic and geometric properties based on mathematical principles 	<p>Student Edition: 47 #38, 79 ex 3, 80 #5-#6, 81 #25-#30, 109 #31, 110 #1-#2, 133 #11-#13, 134 #19-#22, 137 #1-#3, 138 #1</p> <p><i>Extra Practice Lesson 2-1 802</i> <i>Reading Math 98</i></p> <p>Teacher Wraparound Edition: AE 80, 82</p>
<ul style="list-style-type: none"> • Justify the validity of an argument 	<p>Student Edition: 47 #38, 79 ex 3, 80 #5-#6, 81 #25-#30, 109 #31, 110 #1-#2, 133 #11-#13, 134 #19-#22, 137 #1-#3, 138 #1</p> <p><i>Extra Practice Lesson 2-1 802</i> <i>Reading Math 98</i></p> <p>Teacher Wraparound Edition: AE 80, 82</p>

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<ul style="list-style-type: none"> Construct a valid argument 	<p>Student Edition: 78-82, 90 #56-#61, 97 #60-#62, 110 #1-#3, 133 #11-#13, 137 #1-#3</p> <p>Teacher Wraparound Edition: A 82; AE 79, 80; PA 82; T 78; TNT 79</p>
<p>Process Standard D: Students will develop the ability to make mathematical connections by solving problems where there is a need to view mathematics as an integrated whole in order to:</p>	
<ul style="list-style-type: none"> Link new concepts to prior knowledge Identify relationships between content strands Integrate mathematics with other disciplines Allow the flexibility to approach problems in a variety of ways within and beyond the field of mathematics 	
<ul style="list-style-type: none"> Use mathematical ideas from one area of mathematics to explain an idea from another area of mathematics 	<p>Student Edition: 28 #56, 37 #37, 65 #27, 162 #44, 178 #35, 223 #33, 231 #30, 277 #40, 286 #46, 293 #30, 308 #29, 329 #31, 338 #35, 345 #37-#39, 361 #31, 367 #26, 395 #50-#52, 403 #30, 446 #40</p> <p>Teacher Wraparound Edition: A 278</p>
<ul style="list-style-type: none"> Explain the relationship between concepts and procedures 	<p>Student Edition: 28 #56, 37 #37, 65 #27, 162 #44, 178 #35, 223 #33, 231 #30, 277 #40, 286 #46, 293 #30, 308 #29, 329 #31, 338 #35, 345 #37-#39, 361 #31, 367 #26, 395 #50-#52, 403 #30, 446 #40</p> <p>Teacher Wraparound Edition: A 278</p>
<ul style="list-style-type: none"> Use the connections among mathematical topics to develop multiple approaches to problems 	<p>Student Edition: 28 #56, 37 #37, 65 #27, 162 #44, 178 #35, 223 #33, 231 #30, 277 #40, 286 #46, 293 #30, 308 #29, 329 #31, 338 #35, 345 #37-#39, 361 #31, 367 #26, 395 #50-#52, 403 #30, 446 #40</p> <p>Teacher Wraparound Edition: A 278</p>
<ul style="list-style-type: none"> Apply mathematical thinking and modeling to solve problems that arise in other disciplines, such as rhythm in music and motion in science 	<p>Student Edition: 18 #41, 27 #46-#49, 46 #33, 81 #33-#35, 89 #42-#44, 95 #25-#26, 116 #26-#27, 169 #33-#34, 168 #11-#12, 176 #6, 206 #27, 237 ex 3, 276 #28-#31, 300 #29-#30, 305 ex 4, 306 #5, 322 #31, 338 #17</p> <p>Teacher Wraparound Edition: AE 237, 305</p>

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<ul style="list-style-type: none"> Identify, explain, and apply mathematics in everyday life 	<p>Student Edition: 64 #18-#21, 65 #22, 71 #32, 75 #11, 143 ex 2, 145 #37-#40, 146 #45-#47, 153 #25, 206 #21, 207 #33, 213 ex 3, 214 #9, 276 #26-#27, 285 #35, 286 #38, 321 #14, 323 #51, 335 ex 2</p> <p>Teacher Wraparound Edition: AE 144, 335</p>
Grade 12	
1.0 Numbers, Number Sense, and Computation	
<p>Content Standard 1.0 Students will accurately calculate and use estimation techniques, number relationships, operation rules, and algorithms; they will determine the reasonableness of answers and the accuracy of solutions to solve problems, communicate, reason, and make connections within and beyond the field of mathematics.</p> <p>At a minimum, students will maintain previous skills and attain the following:</p>	
<p>1.12.6 Determine an approximate value of radical and exponential expressions using a variety of methods.</p>	<p>Student Edition: 790-791 <i>Study Tip</i> 730</p>
<p>1.12.7 Solve mathematical problems involving exponents and roots.</p>	<p>Student Edition: 5 #11-#15, 123 #18, 727 #6-#9, 780, 792-793, 794-795</p>
<p>Perform addition, subtraction, and scalar multiplication on matrices.</p>	<p>Student Edition: 798-799</p>
<p>1.12.8 Identify and apply real number properties to solve problems.</p>	<p>Student Edition: 111, 112 ex 1 – ex 2, 114 #1-#3, 115 #8-#17, 117 #36-#37, 123 #19-#22, 135 #30-#33</p>
2.0 Patterns, Functions, and Algebra	
<p>Content Standard 2.0 Students will use various algebraic methods to analyze, illustrate, extend, and create numerous representations (words, numbers, tables, and graphs) of patterns, functions, and algebraic relations as modeled in practical situations to solve problems, communicate, reason, and make connections within and beyond the field of mathematics.</p> <p>At a minimum, students will maintain previous skills and attain the following:</p>	
<p>2.12.1 Use algebraic expressions to identify and describe the n^{th} term of a sequence.</p>	<p>Student Edition: 78-82, 90 #56-#61 <i>Geometry Lab</i> 320 <i>Graphing Calculator Lab</i> 387</p> <p>Teacher Wraparound Edition: AE 79, 80; GL 320; PA 82; T 387; TNT 79</p>

STANDARDS	PAGE REFERENCES
<p>2.12.2 Isolate any variable in given equations, inequalities, proportions, and formulas to use in mathematical and practical situations.</p>	<p>Student Edition: 77 #9-#14, 112 ex 2, 114 #4, 115 #18, 116 #22-#25, 123 #21, 135 #34-#35, 431 #1-#4, 553 #1-#4, 781-782</p> <p>Teacher Wraparound Edition: AE 112</p>
<p>2.12.3 Add, subtract, multiply, and factor 1st and 2nd degree polynomials connecting the arithmetic and algebraic processes.</p>	<p>Student Edition: 5 #11-#15, 123 #18, 727 #6-#9, 780, 792-793, 794-795</p>
<p>Simplify algebraic expressions, including exponents and radicals.</p>	<p>Student Edition: 5 #11-#15, 123 #18, 727 #6-#9, 780, 792-793, 794-795</p>
<p>2.12.4 Determine the domain and range of functions, including linear, quadratic, and absolute value, algebraically and graphically.</p>	<p>Student Edition: 156-163, 164 #13, 165-170, 193 #16-#22, 195 #12-#15, 197 #10, 785, 786-787</p> <p><i>Geometry Lab</i> 171</p> <p><i>Graphing Calculator Lab</i> 155</p>
<p>Solve absolute value equations and inequalities both algebraically and graphically.</p>	<p>This can be found in Glencoe's <i>Algebra 1</i> © 2008 on pages 322-327 and 329-333.</p>
<p>2.12.5 Solve systems of two linear equations algebraically and graphically and verify solutions (with and without technology).</p>	<p>Student Edition: 273 ex 2, 274 #3, 275 #16-#18</p> <p>Teacher Wraparound Edition: AE 273</p>
<p>2.12.6 Solve mathematical and practical problems involving linear and quadratic equations with a variety of methods, including discrete methods (with and without technology).</p>	<p>Student Edition: 77 #9-#14, 112 ex 2, 114 #4, 115 #18, 116 #22-#25, 123 #21, 135 #34-#35, 431 #1-#4, 553 #1-#4, 781-782</p> <p>Teacher Wraparound Edition: AE 112</p>

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3.0 Measurement	
Content Standard 3.0 Students will use appropriate tools and techniques of measurement to determine, estimate, record, and verify direct and indirect measurements to solve problems, communicate, reason, and make connections within and beyond the field of mathematics.	
At a minimum, students will maintain previous skills and attain the following:	
3.12.1 Estimate and convert between customary and metric systems.	Student Edition: 776-777
3.12.2 Justify, communicate, and differentiate between precision, error, and tolerance in practical problems.	Student Edition: 14 ex 3, 17 #5-#6, 18 #16-#21, 19 #48-#51, 20 #56-#58, 69 #14 <i>Study Tip</i> 14 Teacher Wraparound Edition: AE 14; PA 14
3.12.3 Select and use appropriate measurement tools, techniques, and formulas to solve problems in mathematical and practical situations.	Student Edition: 14 ex 3, 17 #5-#6, 18 #16-#21, 19 #48-#51, 20 #56-#58, 69 #14 <i>Study Tip</i> 14 Teacher Wraparound Edition: AE 14; PA 14
3.12.4 Interpret and apply consumer data presented in charts, tables, and graphs to make informed financial decisions related to practical applications.	Student Edition: 567 #9, 852, 856 #8
3.12.5 Determine the measure of unknown dimensions, angles, areas, and volumes using relationships and formulas to solve problems.	Student Edition: 630-636, 638-647, 649, 650 ex 1, 653 #1-#2, 654 #25-#26, 656 #53 <i>Geometry Lab</i> 648, 651 <i>Graphing Calculator Lab</i> 637 Teacher Wraparound Edition: A 636, 648, 656; AE 631, 632, 633, 639, 640, 641, 650; PA 647

STANDARDS	PAGE REFERENCES
4.0 Spatial Relationships, Geometry, and Logic	
Content Standard 4.0 Students will identify, represent, verify, and apply spatial relationships and geometric properties to solve problems, communicate, and make connections within and beyond the field of mathematics.	
At a minimum, students will maintain previous skills and attain the following:	
<p>4.12.1</p> <p>Identify and use the parts of a circle to solve mathematical and practical problems.</p>	<p>Student Edition: 578-586, 587 #14, 596 #40-#42, 606 #50-#52, 622 #35-#40, 625 #9, 627 #9 <i>Geometry Lab</i> 597-598</p> <p>Teacher Wraparound Edition: A 586; AE 579, 580, 581, 582; PA 586</p>
<p>Identify and apply properties of interior and exterior angles of polygons to solve mathematical and practical problems.</p>	<p>Student Edition: 318-323, 330 #46-#49, 339 #45-#48, 347 #1-#5, 370 #11, 373 #1-#3 <i>Spreadsheet Lab</i> 324</p> <p>Teacher Wraparound Edition: A 323, 324; AE 319, 320, 321; F 320; PA 320</p>
<p>4.12.2</p> <p>Apply properties of similarity through right triangle trigonometry to find missing angles and sides.</p>	<p>Student Edition: 456-462, 463 #10-#13, 464-470, 471-477, 479-485 <i>Geometry Software Lab</i> 478 <i>Graphing Calculator Lab</i> 455</p> <p>Teacher Wraparound Edition: A 455, 470, 485; AE 457, 458, 459, 473, 474, 480, 481; DI 458; PA 459, 465, 485</p>
<p>4.12.5</p> <p>Determine the slope of lines using coordinate geometry and algebraic techniques.</p>	<p>Student Edition: 1556-163, 164 #16-#18, 179 #43-#46 <i>Graphing Calculator Lab</i> 155</p> <p>Teacher Wraparound Edition: A 155; AE 157, 158, 159; GL 158; T 155; TNT 157</p>
<p>Identify parallel, perpendicular, and intersecting lines by slope.</p>	<p>Student Edition: 160 #13-#16, 161 #23-#28, 162 #49, 164 #13, 167 ex 4, 168 #9-#10, 169 #29-#32, 175 ex 4, 176 #7, 177 #18-#19, 179 #47-#48 <i>Geometry Lab</i> 171</p> <p>Teacher Wraparound Edition: A 163, 167, 175; T 180</p>
<p>Graph linear equations and find possible solutions to those equations using coordinate geometry.</p>	<p>Student Edition: 273, 788-789 <i>Geometry Lab</i> 158, 180</p> <p>Teacher Wraparound Edition: AE 159; GL 158</p>

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Find possible solution sets of systems of equations whose slopes indicate parallel, perpendicular, or intersecting lines.	Student Edition: 273 ex 2, 274 #3, 275 #16-#18 Teacher Wraparound Edition: AE 273
4.12.6 Solve problems using complementary and supplementary angles, congruent angles, vertical angles, angles formed when parallel lines are cut by a transversal and angles in polygons.	Student Edition: 40-47, 57 #57-#58, 71 #26-#29, 73 #15, 74 #5, 124-131, 136 #42-#45, 137 #17-#18 Teacher Wraparound Edition: A 47; AE 41, 42, 43, 44, 127; DI 43; PA 42; TNT 43
4.12.7 Apply the Pythagorean Theorem and its converse in mathematical and practical situations.	Student Edition: 440-446, 454 #42-#47, 462 #62-#63, 463 #4, 487 #15-#17, 491 #7-#8, 492 #3, 493 #8 <i>Geometry Lab</i> 439 Teacher Wraparound Edition: A 439, 446; AE 441, 442, 443; PA 443; T 439
4.12.8 Solve problems by drawing and/or constructing geometric figures to demonstrate geometric relationships.	Student Edition: <i>Construction</i> 16, 25, 33, 35, 182, 186, 266, 268, 409, 413, 172, 182 <i>Geometry Lab</i> 48
4.12.9 Formulate, evaluate, and justify arguments using inductive and deductive reasoning in mathematical and practical situations.	Student Edition: 47 #38, 79 ex 3, 80 #5-#6, 81 #25-#30, 109 #31, 110 #1-#2, 133 #11-#13, 134 #19-#22, 137 #1-#3, 138 #1 <i>Extra Practice Lesson 2-1</i> 802 <i>Reading Math</i> 98 Teacher Wraparound Edition: AE 80, 82
5.0 Data Analysis	
Content Standard 5.0 Students will collect, organize, display, interpret, and analyze data to determine statistical relationships and probability projections to solve problems, communicate, reason, and make connections within and beyond the field of mathematics. At a minimum, students will maintain previous skills and attain the following:	
5.12.1 Organize statistical data through the use of tables, graphs, and matrices (with and without technology).	Student Edition: 567 #29-#31, 851 #18, 856 #8
5.12.2 Select and apply appropriate statistical measures in mathematical and practical situations.	Student Edition: 565 ex 3, 567 #9, 670 #19-#22, 843 #9, 847 #17-#18, 851 #19-#20, 856 #8 <i>Cross-Curricular Project</i> 23

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5.12.3 Distinguish between a sample and a census.	This can be found in Glencoe's <i>Algebra 1</i> © 2008 on pages 642-648.
Identify sources of bias and their effect on data representations and statistical conclusions.	This can be found in Glencoe's <i>Algebra 1</i> © 2008 on pages 642-648.
Use the shape of a normal distribution to compare and analyze data from a sample.	This can be found in Glencoe's <i>Advanced Mathematical Concepts</i> © 2006 on pages 918-925.
5.12.4 Apply permutations and combinations to mathematical and practical situations, including the Fundamental Counting Principle.	Student Edition: 300 #29
5.12.5 Determine the probability of an event with and without replacement using sample spaces.	Student Edition: 587 #19, 665-671, 674 #23-#24, 675 #11-#13, 847 #19, 856 #9
Design, conduct, analyze, and effectively communicate the results of multi-stage probability experiments.	Student Edition: 587 #19, 665-671, 674 #23-#24, 675 #11-#13, 847 #19, 856 #9
5.12.6 Design, construct, analyze, and select an appropriate type of graphical representations to communicate the results of a statistical experiment.	Student Edition: 567 #29-#31, 851 #18, 856 #8
Formulate and justify inferences based on a valid data sample.	This can be found in Glencoe's <i>Algebra 1</i> © 2008 on pages 642-648.