



# Geometry

Concepts and Applications

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STANDARDS	PAGE REFERENCES
<b>Strand 1: Number Sense and Operations</b>	
<p>Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning &amp; Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.</p>	
<b>Concept 1: Number Sense</b>	
<p>Understand and apply numbers, ways of representing numbers, the relationships among numbers and different number systems.</p>	
<p>PO 1. Classify real numbers as members of one or more subsets: natural, whole, integers, rational, or irrational numbers.</p>	<p><b>Student Edition:</b> 50-51, 54 #4-#6, #11-#16, 641 #10, 642 #19 <i>Study Guide and Assessment</i> 82 #1-#2</p> <p><b>Teacher Wraparound Edition:</b> A 55; TT 50, 642</p> <p><b>Teacher Resources:</b> <i>Study Guide</i> 45</p>

STANDARDS	PAGE REFERENCES
PO 2. Identify properties of the real number system: commutative, associative, distributive, identity, inverse, and closure.	<p><b>Student Edition:</b> 57, 279, 561 Example 3, 649-652</p> <p><b>Teacher Wraparound Edition:</b> EC 653; IE 650-651; ML 649; TT 57, 279</p> <p><b>Teacher Resources:</b> <i>Enrichment 54</i></p>
PO 3. Distinguish between finite and infinite sets of numbers.	<p><b>Student Edition:</b> 50, 53 #1</p> <p><i>Investigation 154</i></p> <p>Also see Glencoe's <i>Algebra: Concepts and Applications</i> © 2006.</p>
<p><b>Concept 2: Numerical Operations</b></p> <p>Understand and apply numerical operations and their relationship to one another.</p>	
PO 1. Select the grade-level appropriate operation to solve word problems.	<p><b>Student Edition:</b> 22 #38, 40 #31, 55 #29, 146 #47, 258 Example 3, 352 Example 4, 409 Example 1, 685 #29-#30</p> <p><i>Preparing for Standardized Tests 224</i></p> <p><b>Teacher Wraparound Edition:</b> EC 261</p>
PO 2. Solve word problems using grade-level appropriate operations and numbers.	<p><b>Student Edition:</b> 37-38 Example 4, 146 #47, 197 #21, 258 Example 3, 297 Example 3, 358 Example 3</p> <p><i>Math in the Workplace 41, 301</i></p> <p><b>Teacher Wraparound Edition:</b> RA 259</p> <p><b>Teacher Resources:</b> <i>Study Guide 248</i></p>

STANDARDS	PAGE REFERENCES
PO 3. Simplify numerical expressions including signed numbers and absolute values.	<p><b>Student Edition:</b>            52-53, 350-353, 550 Example 7, 551 Example 8, 552 #7-#14, #16-#40  <i>Preparing for Standardized Tests</i> 272  <i>Study Guide and Assessment</i> 578 #11-#16  <i>Test</i> 581 #3-#6</p> <p><b>Teacher Wraparound Edition:</b>            TT 351</p>
PO 4. Apply subscripts to represent ordinal position.	<p><b>Student Edition:</b>            77, 78 Example 2  <i>Study Guide and Assessment</i> 84 Lesson 2-5</p> <p><b>Teacher Wraparound Edition:</b>            EA 79</p> <p><b>Teacher Resources:</b>  <i>Study Guide</i> 65</p>
PO 5. Use grade-level appropriate mathematical terminology.	<p><b>Student Edition:</b>            198, 413, 474, 586, 697  <i>Investigation</i> 154, 244-245, 380, 432</p> <p><b>Teacher Wraparound Edition:</b>            A 239; RA 298</p>
PO 6. Compute using scientific notation.	<p><b>Student Edition:</b>            214 #28  <i>Preparing for Standardized Tests</i> 46 Example 1, 47 #5, 347 #3, 583 #2</p>
PO 7. Simplify numerical expressions using the order of operations.	<p><b>Student Edition:</b>            64 Example 3, 77 Example 1, 78, 105 Example 3, 164-165 Example 3, 176 Example 6  <i>Preparing for Standardized Tests</i> 46 Example 1, 86 Example 1</p> <p><b>Teacher Resources:</b>  <i>Enrichment</i> 277, 524</p>

STANDARDS	PAGE REFERENCES
<b>Concept 3: Estimation</b>	
Use estimation strategies reasonably and fluently.	
PO 1. Solve grade-level appropriate problems using estimation.	<b>Student Edition:</b> 171 #2, 267 #34, 414-417, 479 Example 1 <i>Hands-On Geometry</i> 475 #3 <i>Preparing for Standardized Tests</i> 225 #5, 347 #7 <b>Teacher Wraparound Edition:</b> EC 418; IE 414
PO 2. Determine if a solution to a problem is reasonable.	<b>Student Edition:</b> 207 #26, 258 Example 3, 278 Example 3, Example 4, 298 Example 4, 411 #3, 414 Example 2, 421-422 Example 4 <i>Math in the Workplace</i> 379 #1-#2 <b>Teacher Wraparound Edition:</b> EC 299; RA 259
PO 3. Determine rational approximations of irrational numbers.	<b>Student Edition:</b> 51, 530 Example 2, 555 Example 1, 561 Example 4 <i>Preparing for Standardized Tests</i> 582 Example 1 <b>Teacher Wraparound Edition:</b> IE 555
<b>Strand 2: Data Analysis, Probability, and Discrete Mathematics</b>	
Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.	
<b>Concept 1: Data Analysis (Statistics)</b>	
Understand and apply data collection, organization and representation to analyze and sort data.	
PO 1. Formulate questions to collect data in contextual situations.	<b>Student Edition:</b> <i>Preparing for Standardized Tests</i> 184, 185 #10, 347 #10
PO 2. Organize collected data into an appropriate graphical representation.	<b>Student Edition:</b> <i>Preparing for Standardized Tests</i> 184, 185 #10, 347 #10

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PO 3. Display data as lists, tables, matrices, and plots.	<p><b>Student Edition:</b> 101 #29, 133 #33, 179 #36-#37, 219 #29, 267 #34, 486 #3-#5</p> <p><i>Preparing for Standardized Tests</i> 184-185</p>
PO 4. Construct equivalent displays of the same data.	<p><b>Student Edition:</b> 72 #36</p> <p><i>Preparing for Standardized Tests</i> 184 Example 1</p> <p><i>Study Guide and Assessment</i> 84 #37</p>
PO 5. Identify graphic misrepresentations and distortions of sets of data.	<p>This standard can be met during teacher/class discussion.</p>
PO 6. Identify which of the measures of central tendency is most appropriate in a given situation.	<p>This standard can be taught with the following examples.</p> <p><b>Student Edition:</b> 418 #30, 665 #32</p> <p><i>Preparing for Standardized Tests</i> 224, 225 #1, #3, #7, 307 #5, 399 #8</p>
PO 7. Make reasonable predictions based upon linear patterns in data sets or scatter plots.	<p><b>Student Edition:</b> 7 Example 5, 9 #36, 133 #33, 267 #34</p> <p><i>Preparing for Standardized Tests</i> 347 #7</p>
PO 8. Make reasonable predictions for a set of data, based on patterns.	<p><b>Student Edition:</b> 7 Example 5, 9 #36, 133 #33, 179 #36b, 267 #34</p> <p><i>Preparing for Standardized Tests</i> 347 #7</p>
PO 9. Draw inferences from charts, tables, graphs, plots, or data sets.	<p><b>Student Edition:</b> 7 Example 5, 9 #36, 133 #33, 179 #36b, 219 #29, 267 #34</p> <p><i>Preparing for Standardized Tests</i> 347 #7</p> <p><b>Teacher Wraparound Edition:</b> RA 7</p>
PO 10. Apply the concepts of mean, median, mode, range, and quartiles to summarize data sets.	<p><b>Student Edition:</b> 22 #39, 418 #30, 665 #32</p> <p><i>Preparing for Standardized Tests</i> 224, 225 #1, #3, #7, 307 #5, 399 #8</p>

STANDARDS	PAGE REFERENCES
PO 11. Evaluate the reasonableness of conclusions drawn from data analysis.	<p><b>Student Edition:</b>            7 Example 5, 9 #36, 101 #29  <i>Hands-On Geometry</i> 283  <i>Preparing for Standardized Tests</i> 184 Example 2, 185 #1</p> <p><b>Teacher Wraparound Edition:</b>            IE 7</p>
PO 12. Recognize and explain the impact of interpreting data (making inferences or drawing conclusions) from a biased sample.	<p>The concept of biased sample can be introduced when the student works on the following problems:</p> <p><b>Student Edition:</b>  <i>Preparing for Standardized Tests</i> 139 #10, 185 #1, #7</p>
PO 13. Draw a line of best fit for a scatter plot.	<p>Scatter plots are covered in Glencoe's <i>Algebra: Concepts and Applications</i> © 2006.</p> <p><b>Student Edition:</b>            302-307, 308-309, 329 #26-#27</p>
PO 14. Determine whether displayed data has positive, negative, or no correlation.	<p><b>Student Edition:</b>            169, 179 #39</p> <p>Also see Glencoe's <i>Algebra: Concepts and Applications</i> © 2006.</p>
PO 15. Identify a normal distribution.	<p>This standard can be met in Glencoe's <i>Advanced Mathematical Concepts: Precalculus with Applications</i> © 2006.</p> <p><b>Student Edition:</b>            918-925</p>
PO 16. Identify differences between sampling and census.	<p>The concepts of sampling and census can be introduced when the student works on the following problems:</p> <p><b>Student Edition:</b>            484, 486 #7, #24-#25, 487 #28</p> <p><i>Preparing for Standardized Tests</i> 138 Example 2, 139 #4, 185 #9, 545 #5, 629 #2</p> <p><b>Teacher Wraparound Edition:</b>            A 487</p>

STANDARDS	PAGE REFERENCES
PO 17. Identify differences between biased and unbiased samples.	The concept of biased sample can be introduced when the student works on the following problems: <b>Student Edition:</b> <i>Preparing for Standardized Tests</i> 139 #10, 185 #1, #7
<p><b>Concept 2: Probability</b></p> <p>Understand and apply the basic concepts of probability.</p>	
PO 1. Find the probability that a specific event will occur, with or without replacement.	<b>Student Edition:</b> <i>Preparing for Standardized Tests</i> 138 Example 2, 139 #4, 347 #2, 629 #2  Also see Glencoe's <i>Algebra: Concepts and Applications</i> © 2006.
PO 2. Determine simple probabilities related to geometric figures.	<b>Student Edition:</b> 484 Example 3, 486 #7, #24-#25, 487 #28c <b>Teacher Wraparound Edition:</b> A 487; IE 484; RA 486
PO 3. Predict the outcome of a grade-level appropriate probability experiment.	<b>Student Edition:</b> <i>Preparing for Standardized Tests</i> 138 Example 2, 139 #4, 347 #2, 629 #2  Also see Glencoe's <i>Algebra: Concepts and Applications</i> © 2004.
PO 4. Record the data from performing a grade-level appropriate probability experiment.	<b>Student Edition:</b> <i>Preparing for Standardized Tests</i> 184 Example 1, 185 #10, 347 #10
PO 5. Compare the outcome of an experiment to predictions made prior to performing the experiment.	<b>Student Edition:</b> 7 Example 5, 9 #36, 133 #33, 267 #34 <i>Investigation</i> 10-11 <i>Preparing for Standardized Tests</i> 347 #7
PO 6. Distinguish between independent and dependent events.	This standard is covered in Glencoe's <i>Algebra: Concepts and Applications</i> © 2006. <b>Student Edition:</b> 224-225, 227 #2
PO 7. Compare the results of two repetitions of the same grade-level appropriate probability experiment.	<b>Student Edition:</b> 484  This concept also can be taught when students do experiments.

STANDARDS	PAGE REFERENCES
<p><b>Concept 3: Discrete Mathematics – Systematic Listing and Counting</b></p>	
<p>Understand and demonstrate the systematic listing and counting of possible outcomes.</p>	
<p>PO 1. Determine the number of possible outcomes for a contextual event using a chart, a tree diagram, or the counting principle.</p>	<p>A tree diagram of a chart could be used when solving the following problem:  <b>Student Edition:</b>  <i>Preparing for Standardized Tests</i> 138 Example 1</p>
<p>PO 2. Determine when to use combinations versus permutations in counting objects.</p>	<p><b>Student Edition:</b>  <i>Preparing for Standardized Tests</i> 138 Example 1  Also see Glencoe's <i>Algebra: Concepts and Applications</i> © 2006.</p>
<p>PO 3. Use combinations or permutations to solve contextual problems.</p>	<p>This standard is covered in Glencoe's <i>Algebra: Concepts and Applications</i> © 2006.  <b>Student Edition:</b>  152-153, 280-281</p>
<p><b>Concept 4: Vertex-Edge Graphs</b></p>	
<p>Understand and apply vertex-edge graphs.  <i>(Grades K-8)</i></p>	
<p><b>Strand 4: Geometry and Measurement</b></p>	
<p>Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning &amp; Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.</p>	
<p><b>Concept 1: Geometric Properties</b></p>	
<p>Analyze the attributes and properties of 2- and 3-dimensional shapes and develop mathematical arguments about their relationships.</p>	
<p>PO 1. Identify the attributes of special triangles (isosceles, equilateral, right).</p>	<p><b>Student Edition:</b>  188-192, 194-197, 246-250, 251-255  <i>Quiz</i> 202  <b>Teacher Wraparound Edition:</b>  A 192; EC 192  <b>Teacher Resources:</b>  <i>Skills Practice</i> 180, 237  <i>Study Guide</i> 149</p>

STANDARDS	PAGE REFERENCES
PO 2. Identify the hierarchy of quadrilaterals.	<p><b>Student Edition:</b> 310-315, 316, 320 #24-#26, 324, 330-331 #7-#8, #16-#21, #39-#44, 333, 335, 336 #3</p> <p><b>Teacher Wraparound Edition:</b> EC 321; T 310</p> <p><b>Teacher Resources:</b> <i>Study Guide 307</i></p>
PO 3. Make a net to represent a 3-dimensional object.	<p><b>Student Edition:</b> 507, 509 #20, 516 <i>Hands-On Geometry 522</i></p> <p><b>Teacher Wraparound Edition:</b> A 509; HG 523; ML 517; TT 518</p>
PO 4. Make a 3-dimensional model from a net.	<p>This concept can be introduced when the student works on the following problems:</p> <p><b>Student Edition:</b> 507, 509 #20, 516 <i>Hands-On Geometry 522</i></p> <p><b>Teacher Wraparound Edition:</b> A 509; HG 523; ML 517; TT 518</p>
PO 5. Draw 2-dimensional and 3-dimensional figures with appropriate labels.	<p><b>Student Edition:</b> 498 #1, 500 #32, 508 #2, 509 #16, 513 #1, 514 #21, 520 #2, 531 #2, 537 #2 <i>Hands-On Geometry 510</i> <i>Investigation 502-503</i></p> <p><b>Teacher Wraparound Edition:</b> FA 499</p>
PO 6. Solve problems related to complementary, supplementary, or congruent angle concepts.	<p><b>Student Edition:</b> 117-121, 122-127, 150 Example 4, 157-159</p> <p><b>Teacher Wraparound Edition:</b> EC 126; IE 117-119, 124</p> <p><b>Teacher Resources:</b> <i>Skills Practice 106, 107</i></p>

STANDARDS	PAGE REFERENCES
PO 7. Solve problems by applying the relationship between circles, angles, and intercepted arcs.	<p><b>Student Edition:</b> 455-458, 462-467, 468-473, 477 #21, 482 #27</p> <p><b>Teacher Wraparound Edition:</b> EC 466</p> <p><b>Teacher Resources:</b> <i>Enrichment</i> 465 <i>Skills Practice</i> 452, 453 <i>Study Guide</i> 451, 456</p>
PO 8. Solve problems by applying the relationship between radii, diameters, chords, tangents, or secants.	<p><b>Student Edition:</b> 455-458, 462-467, 468-473, 477 #21, 482 #27</p> <p><b>Teacher Wraparound Edition:</b> EC 466</p> <p><b>Teacher Resources:</b> <i>Enrichment</i> 465 <i>Skills Practice</i> 452, 453 <i>Study Guide</i> 451, 456</p>
PO 9. Solve problems using the triangle inequality property.	<p><b>Student Edition:</b> 291-295, 296-300 <i>Math in the Workplace</i> 301 <i>Study Guide and Assessment</i> 304 #38-#39</p> <p><b>Teacher Wraparound Edition:</b> EC 295, 299; RA 298</p>
PO 10. Solve problems using special case right triangles.	<p><b>Student Edition:</b> 258 Example 3, 260 #38, 594 Example 2 <i>Investigation</i> 432-433 <i>Preparing for Standardized Tests</i> 628 <i>Study Guide and Assessment</i> 270 #36</p> <p><b>Teacher Wraparound Edition:</b> EC 261; RA 259</p> <p><b>Teacher Resources:</b> <i>Study Guide</i> 248</p>

STANDARDS	PAGE REFERENCES
PO 11. Determine when triangles are congruent by applying SSS, ASA, AAS, or SAS.	<p><b>Student Edition:</b>            211-214, 215-219  <i>Study Guide and Assessment</i> 221  <i>Test</i> 223</p> <p><b>Teacher Wraparound Edition:</b>            EC 219; IE 216; RA 212</p> <p><b>Teacher Resources:</b>  <i>Practice</i> 201  <i>Skills Practice</i> 200, 205  <i>Study Guide</i> 199</p>
PO 12. Determine when triangles are similar by applying SAS, SSS, or AA similarity postulates.	<p><b>Student Edition:</b>            356, 357 Example 2, 359 #6, 360 #13, #16-#18</p> <p><b>Teacher Wraparound Edition</b>            IE 357</p> <p><b>Teacher Resources:</b>  <i>Practice</i> 358  <i>Study Guide</i> 356</p>
PO 13. Construct a triangle congruent to a given triangle.	<p><b>Student Edition:</b>            217 #1-#2, 365 #1  <i>Hands-On Geometry</i> 362</p> <p><b>Teacher Wraparound Edition:</b>            RA 212</p> <p><b>Teacher Resources:</b>  <i>Enrichment</i> 365  <i>Practice</i> 363</p>
PO 14. Solve contextual situations using angle and side length relationships.	<p><b>Student Edition:</b>            197 #21, 214 #20-#21, 218 #10, 365 Example 3, 366 #5, 367 #14-#16  <i>Investigation</i> 208-209</p>

STANDARDS	PAGE REFERENCES
<p><b>Concept 2: Transformation of Shapes</b></p>	
<p>Apply spatial reasoning to create transformations and use symmetry to analyze mathematical situations.</p>	
<p>PO 1. Sketch the planar figure that is the result of two or more transformations.</p>	<p><b>Student Edition:</b> 320 #27</p>
<p>PO 2. Identify the properties of the planar figure that is the result of two or more transformations.</p>	<p><b>Student Edition:</b> 200 #8, 202 #27, 320 #27</p> <p><b>Teacher Wraparound Edition:</b> IE 200</p> <p><b>Teacher Resources:</b> <i>Study Guide 189</i></p>
<p>PO 3. Determine the new coordinates of a point when a single transformation is performed on a planar geometric figure.</p>	<p><b>Student Edition:</b> 687-689, 695, 697-699</p> <p><b>Teacher Wraparound Edition:</b> EC 201, 690, 696; IE 688, 703; RA 288</p> <p><b>Teacher Resources:</b> <i>Practice 685, 690</i> <i>Study Guide 683, 694</i></p>
<p>PO 4. Determine whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation.</p>	<p><b>Student Edition:</b> 687-689, 692-695, 697-699, 703-706</p> <p><b>Teacher Wraparound Edition:</b> EC 696, 707; IE 688, 693, 699, 703</p>
<p>PO 5. Classify transformations based on whether they produce congruent or similar figures.</p>	<p><b>Student Edition:</b> 207 #25</p> <p><i>Investigation 208-209</i> <i>Study Guide and Assessment 221 Lesson 5-3</i></p> <p><b>Teacher Wraparound Edition:</b> ML 687; RA 694</p>
<p>PO 6. Determine the effects of a single transformation on linear or area measurements of a planar geometric figure.</p>	<p><b>Student Edition:</b> 199-201, 407 #37, 687-689, 695, 703-707</p> <p><b>Teacher Wraparound Edition:</b> EC 707; RA 694</p> <p><b>Teacher Resources:</b> <i>Study Guide 683</i></p>

STANDARDS	PAGE REFERENCES
<p><b>Concept 3: Coordinate Geometry</b></p>	
<p>Specify and describe spatial relationships using coordinate geometry and other representational systems.</p>	
<p>PO 1. Graph a quadratic equation with lead coefficient equal to one.</p>	<p><b>Student Edition:</b>  <i>Preparing for Standardized Tests</i> 545 #10            This standard is covered in greater depth in Glencoe's <i>Algebra: Concepts and Applications</i> © 2006.</p>
<p>PO 2. Graph a linear equation in two variables.</p>	<p><b>Student Edition:</b>            174, 175 Example 5, 177 #8-#9, 178 #19-#24, #35  <i>Study Guide and Assessment</i> 182 #39-#40  <b>Teacher Wraparound Edition:</b>            ML 174  <b>Teacher Resources:</b>  <i>Practice</i> 162</p>
<p>PO 3. Graph a linear inequality in two variables.</p>	<p>See Glencoe's <i>Algebra: Concepts and Applications</i> © 2006.  <b>Student Edition:</b>            535-539</p>
<p>PO 4. Determine the solution to a system of equations in two variables from a given graph.</p>	<p><b>Student Edition:</b>            676-680, 686 #32  <i>Extra Practice</i> 756 Lesson 16-1 #1-#9  <b>Teacher Wraparound Edition:</b>            5MC 681; A 680; IE 677  <b>Teacher Resources:</b>  <i>Practice</i> 675  <i>Study Guide</i> 673</p>
<p>PO 5. Determine the midpoint between two points in a coordinate system.</p>	<p><b>Student Edition:</b>            76-81, 619 Example 2  <b>Teacher Wraparound Edition:</b>            EC 81; IE 77, 78; ML 76  <b>Teacher Resources:</b>  <i>Study Guide</i> 65</p>

STANDARDS	PAGE REFERENCES
PO 6. Determine changes in the graph of a linear function when constants and coefficients in its equation are varied.	<p><b>Student Edition:</b>            177 #2, #11, 179 #38-#39  <i>Study Guide and Assessment</i> 182 #39-#41</p> <p><b>Teacher Wraparound Edition:</b>            A 179; EC 179</p> <p><b>Teacher Resources:</b>  <i>Enrichment</i> 164  <i>Study Guide</i> 160</p>
PO 7. Determine the distance between two points in the coordinate system.	<p><b>Student Edition:</b>            262-266</p> <p><b>Teacher Wraparound Edition:</b>            EC 267; IE 263, 264; ML 262; RA 265</p> <p><b>Teacher Resources:</b>  <i>Practice</i> 255  <i>Study Guide</i> 253</p>
<p><b>Concept 4: Measurement - Units of Measure            - Geometric Objects</b></p> <p>Understand and apply appropriate units of measure, measurement techniques, and formulas to determine measurements.</p>	
PO 1. Calculate the area of geometric shapes composed of two or more geometric figures.	<p><b>Student Edition:</b>            413-417, 424 #23-#24, 430 #16, 444 #22  <i>Math In the Workplace</i> 41 #1-#2  <i>Study Guide and Assessment</i> 448 #35</p> <p><b>Teacher Wraparound Edition:</b>            IE 414; RA 416</p> <p><b>Teacher Resources:</b>  <i>Enrichment</i> 415</p>

STANDARDS	PAGE REFERENCES
PO 2. Calculate the volumes of 3-dimensional geometric figures.	<p><b>Student Edition:</b> 510-515, 522-527, 529-532</p> <p><b>Teacher Wraparound Edition:</b> A 515; IE 511, 512, 519, 523</p> <p><b>Teacher Resources:</b> <i>Enrichment 509</i> <i>Practice 507</i> <i>Study Guide 505</i></p>
PO 3. Calculate the surface areas of 3-dimensional geometric figures.	<p><b>Student Edition:</b> 504-509, 516-521, 529, 531-532</p> <p><b>Teacher Wraparound Edition:</b> 5MC 510; A 533; EC 509; IE 506-508, 517-519</p> <p><b>Teacher Resources:</b> <i>Practice 512</i></p>
PO 4. Compare perimeter, area, or volume of figures when dimensions are changed.	<p><b>Student Edition:</b> 534-539</p> <p><b>Teacher Wraparound Edition:</b> FC 535; IE 535, 536, 537; RA 536; TT 535</p> <p><b>Teacher Resources:</b> <i>Enrichment 529</i> <i>Practice 527</i> <i>Study Guide 525</i></p>
PO 5. Find the length of a circular arc.	<p><b>Student Edition:</b> 463 Example 1, 464 Example 2, 466, 482 #27, 501 #36, 680 #28-#29</p> <p><i>Hands-On Geometry 469</i></p> <p><b>Teacher Wraparound Edition:</b> IE 465; TT 463</p>

STANDARDS	PAGE REFERENCES
PO 6. Find the area of a sector of a circle.	<b>Student Edition:</b> 485-487, 591 #30 <i>Study Guide and Assessment</i> 490 #38 <b>Teacher Wraparound Edition:</b> EC 487; IE 485 <b>Teacher Resources:</b> <i>Study Guide</i> 476
PO 7. Solve for missing measures in a pyramid (i.e., slant height, height).	<b>Student Edition:</b> 517-521, 523, 526 #11-#14, #17 <b>Teacher Wraparound Edition:</b> A 527; IE 517, 518 <b>Teacher Resources:</b> <i>Practice</i> 512
PO 8. Find the sum of the interior and exterior angles of a polygon.	<b>Student Edition:</b> 409-412 <i>Hands-On Geometry</i> 408 <b>Teacher Wraparound Edition:</b> A 412; EC 412; IE 409, 410; RA 411 <b>Teacher Resources:</b> <i>Practice</i> 408 <i>Study Guide</i> 406
PO 9. Solve scale factor problems using ratios and proportions.	<b>Student Edition:</b> 389-393, 407 #37, 533 #27, 611 #26, 703, 706 #27 <b>Teacher Wraparound Edition:</b> IE 389, 390 <b>Teacher Resources:</b> <i>Enrichment</i> 385 <i>Practice</i> 383 <i>Study Guide</i> 381

STANDARDS	PAGE REFERENCES
PO 10. Solve applied problems using similar triangles.	<b>Student Edition:</b> 365 Example 3, 366 #5, 367 #14-#18, 373 #22-#24, 378 #30, 392 #12
<p><b>Strand 5: Structure and Logic</b></p> <p>Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning &amp; Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.</p> <p><b>Concept 1: Algorithms and Algorithmic Thinking</b></p> <p>Use reasoning to solve mathematical problems in contextual situations.</p>	
PO 1. Determine whether a given procedure for simplifying an expression is valid.	<b>Student Edition:</b> 37-38 Example 4, 265 #3, 552 #3, 553 #44, 555 Example 1, 602-603 Example 3 <i>Preparing for Standardized Tests</i> 272 Example 1
PO 2. Determine whether a given procedure for solving an equation is valid.	<b>Student Edition:</b> 265 #3, 513 #3, 525 #3, 615 #3 <i>Preparing for Standardized Tests</i> 272 Example 2
PO 3. Determine whether a given procedure for solving a linear inequality is valid.	<b>Student Edition:</b> 280 #3, 338 #36, 643 #34 <i>Study Guide and Assessment</i> 304 Lesson 7-4
PO 4. Select an algorithm that explains a particular mathematical process.	<b>Student Edition:</b> 38 #2, 79 #2, 259 #1-#2, 265 #1-#2, 485 #1-#2, 508 #1, 520 #3, 525 #1, 567 #1, 575 #1
PO 5. Determine the purpose of a simple mathematical algorithm.	<b>Student Edition:</b> 36, 77, 256, 263, 312, 479, 483, 485, 505, 517
PO 6. Determine whether given simple mathematical algorithms are equivalent.	<b>Student Edition:</b> 130 Example 3, 195 Example 3, 480 #1, 618, 619 Example 2 <i>Preparing for Standardized Tests</i> 86 Example 2 <b>Teacher Wraparound Edition:</b> EA 621; TT 619

STANDARDS	PAGE REFERENCES
<p><b>Concept 2: Logic, Reasoning, Arguments, and Mathematical Proof</b></p>	
<p>Evaluate situations, select problem-solving strategies, draw logical conclusions, develop and describe solutions and recognize their applications.</p>	
<p>PO 1. Draw a simple valid conclusion from a given <i>if...then</i> statement and a minor premise.</p>	<p><b>Student Edition:</b> 24-28, 635, 637 #35, 640 Example 3, 641-642 #4-#20 <i>Quiz 1</i> 648 #3-#4 <b>Teacher Wraparound Edition:</b> IE 26</p>
<p>PO 2. List related <i>if... then</i> statements in logical order.</p>	<p><b>Student Edition:</b> 25, 637 #36, 639-642 <b>Teacher Wraparound Edition:</b> EC 28, 643 <b>Teacher Resources:</b> <i>Practice</i> 636 <i>Study Guide</i> 634</p>
<p>PO 3. Write an appropriate conjecture given a certain set of circumstances.</p>	<p><b>Student Edition:</b> 7 Example 5, 458 #37, 641 #8 <i>Graphing Calculator Exploration</i> 193, 317 <i>Hands-On Geometry</i> 65 <i>Study Guide and Assessment</i> 670 #29</p>
<p>PO 4. Analyze assertions related to a contextual situation by using principles of logic.</p>	<p><b>Student Edition:</b> 24, 40 #34, 632, 637 #34-#35, 641 #8 <b>Teacher Wraparound Edition:</b> FA 642; ML 638, 644</p>
<p>PO 5. Identify a valid conjecture using inductive reasoning.</p>	<p><b>Student Edition:</b> 4-5, 8 #15-#31, 458 #37, 642 #15, #18-#19, #23-#24, 653 #12 <i>Problem-Solving Workshop</i> 631 <i>Study Guide and Assessment</i> 42</p>

STANDARDS	PAGE REFERENCES
PO 6. Distinguish valid arguments from invalid arguments.	<b>Student Edition:</b> 24, 639, 641-642, 653 #12 <i>Quiz 1</i> 648 #3 <b>Teacher Wraparound Edition:</b> 5MC 644; EC 643; FA 642; IE 639
PO 7. Create inductive and deductive arguments concerning geometric ideas and relationships, such as congruence, similarity, and the Pythagorean relationship.	<b>Student Edition:</b> 15 #2, 119 #2, 144 #3, 205 #2, 259 #2-#3, 655 Example 1, 656, 658 <i>Study Guide and Assessment</i> 42 Lesson 1-1
PO 8. Critique inductive and deductive arguments concerning geometric ideas and relationships, such as congruence, similarity, and the Pythagorean relationship.	<b>Student Edition:</b> 15 #2, 37-38 Example 4, 108 #3, 158 #2, 171 #3, 212 #2, 655 Example 1, 656 Example 2
PO 9. Identify a counterexample for a given conjecture.	<b>Student Edition:</b> 6 Example 4, 8 #14, 9 #35, 17 #37, 658 #16, 659 #18, 662 Example 3, 664 #16-#17 <b>Teacher Wraparound Edition:</b> FA 642; IE 6
PO 10. Construct a counterexample to show that a given conjecture is false.	<b>Student Edition:</b> 6 Example 4, 8 #14, 9 #35, 17 #37, 24, 281 #33 <i>Extending the Investigation</i> 209 <i>Study Guide and Assessment</i> 44 #32
PO 11. State the inverse, converse, or contrapositive of a given statement.	<b>Student Edition:</b> 25-28, 34 #15-#17, 121 #35-#36, 291, 635, 637 #36 <i>Study Guide and Assessment</i> 43 Lesson 1-4 <b>Teacher Wraparound Edition:</b> A 28; IE 25, 26

STANDARDS	PAGE REFERENCES
PO 12. Determine if the inverse, converse, or contrapositive of a given statement is true or false.	<b>Student Edition:</b> 28 #30, 633-634, 635 Example 7, 637 #35, 643 #28-#30  <i>Study Guide and Assessment</i> 44 #32  <b>Teacher Wraparound Edition:</b> IE 634-635; TT 25
PO 13. Construct a simple formal or informal deductive proof.	<b>Student Edition:</b> 639-643  <b>Teacher Wraparound Edition:</b> A 643; FA 642; IE 639-640; RA 640  <b>Teacher Resources:</b> <i>Practice</i> 636 <i>Study Guide</i> 634
PO 14. Verify characteristics of a given geometric figure using coordinate formulas such as distance, mid-point, and slope to confirm parallelism, perpendicularity, and congruency.	<b>Student Edition:</b> 63 Example 2, 163 Example 1, 167, 171 Example 5  <i>Graphing Calculator Exploration</i> 79  <i>Hands-On Geometry</i> 65, 69-70  <i>Investigation</i> 102-103, 154-155