



Geometry

Concepts and Applications

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STANDARDS	PAGE REFERENCES
IV. DATA ANALYSIS, STATISTICS, AND PROBABILITY	
A. Data and Statistics	
Standard: Represent data and use various measures associated with data to draw conclusions and identify trends. Understand the effects of display distortion and measurement error on the interpretation of data.	
1. Construct and analyze circle graphs, bar graphs, histograms, box-and-whisker plots, scatter plots and tables, and demonstrate the strengths and weaknesses of each format by choosing appropriately among them for a given situation.	Student Edition: 7-9, 101 #29, 184-185, 219 #29, 225 #10, 354 #42, 347, 399 #10, 473 #31 <i>Math in the Workplace</i> 41, 95, 115, 301, 339, 379
2. Use measures of central tendency and variability, such as, mean, median, maximum, minimum, range, standard deviation, quartile and percentile, to describe, compare and draw conclusions about sets of data.	Student Edition: 224-225, 307 #5, 399 #8, 583 #3, #8, 715 #4
3. Determine an approximate best-fit line from a given scatter plot and use the line to draw conclusions.	A scatter plot is made and interpreted on the following pages. Student Edition: 399 # 10, 776 #18, 781 #8
4. Know the influence of outliers on various measures and representations of data about real-world and mathematical problems.	Student Edition: 22 #39

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5. Understand the relationship between correlation and causation.	Student Edition: 399 #10, 776 #18, 781 #8
6. Interpret data credibility in the context of measurement error and display distortion.	This standard can be met in Glencoe's <i>Algebra Concepts and Applications</i> © 2006 pages 32 ex 1, 34 #2-#4, 35 #10-#15, 37 #23.
7. Compare outcomes of voting methods such as majority, plurality, ranked by preference, run-off and pair-wise comparison.	This standard can be met in Glencoe's <i>Contemporary Mathematics in Context Course 2</i> © 2003 page 207.
B. Probability	
Standard: Use appropriate counting procedures, calculate probabilities in various ways and apply theoretical probability concepts to solve real-world and mathematical problems.	
1. Select and apply appropriate counting procedures to solve real-world and mathematical problems, including probability problems.	Student Edition: 138-139, 185 #4, #9, 273 #7, 347 #2, 399 #7, 451 #6, 545 #5, 629 #2
2. Use area, trees, unions and intersections to calculate probabilities and relate the results to mutual exclusiveness, independence and conditional probabilities, in real-world and mathematical problems.	Student Edition: 138 ex 2, 139 #10, 185 #9, 484 ex 3, 486 #7, 487 #28, 629 #2, 772 #19, 781 #9 <i>Extra Practice 11-6 747 #10-#11</i> Teacher Wraparound Edition: A 487; ICE 484; RA 486
3. Use probability models, including area and binomial models, in real-world and mathematical problems.	Student Edition: 138 ex 2, 185 #9, 484 ex 3, 486 #7, 487 #28, 629 #2, 772 #19, 781 #9 <i>Extra Practice 11-6 747 #10-#11</i> Teacher Wraparound Edition: A 487; ICE 484; RA 486
4. For simple probability models, determine the expected values of random variables.	This standard can be met in Glencoe's <i>Geometry</i> © 2005 pages 549-550.
5. Know the effect of sample size on experimental and simulation probabilities.	Student Edition: 139 #4

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<p>6. Use a variety of experimental, simulation and theoretical methods to calculate probabilities.</p>	<p>Student Edition: 138 ex 2, 185 #9, 484 ex 3, 486 #7, 487 #28, 629 #2, 772 #19, 781 #9 <i>Extra Practice 11-6 747 #10-#11</i></p> <p>Teacher Wraparound Edition: A 487; ICE 484; RA 486</p>
V. SPATIAL SENSE, GEOMETRY AND MEASUREMENT	
A. Spatial Sense	
<p>Standard: Use models to represent and understand two- and three-dimensional shapes and how various motions affect them. Recognize the relationship between different representations of the same shape.</p>	
<p>1. Use models and visualization to understand and represent three-dimensional objects and their cross sections from different perspectives.</p>	<p>Student Edition: 496-501, 504-509, 510-515, 516-521, 522-527, 528-533, 534-539 <i>Investigation 502-503</i></p> <p>Teacher Wraparound Edition: FA 499; ML 517, 528; OEA 527; RA 497, 520</p> <p>Teacher Resources: <i>Enrichment 501</i></p>
B. Geometry	
<p>Standard: Apply basic theorems of plane geometry, right triangle trigonometry, coordinate geometry and a variety of visualization tools to solve real-world and mathematical problems.</p>	
<p>1. Know and use theorems about triangles and parallel lines in elementary geometry to justify facts about various geometrical figures and solve real-world and mathematical problems. These theorems include criteria for two triangles to be congruent or similar and facts about parallel lines cut by a transversal.</p>	<p>Student Edition: 148-153, 156-161, 162-167, 203-207, 210-214, 215-219, 362-367, 268-373, 374-378</p> <p>Teacher Wraparound Edition: ICE 163-164, 365</p> <p>Teacher Resources: <i>Enrichment 149</i> <i>Practice 152</i> <i>Study Guide 150, 199</i></p>

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<p>2. Know and use theorems about circles to justify geometrical facts and solve real-world and mathematical problems. These theorems include the relationships involving tangent lines and radii, the relationship between inscribed and central angles and the relationship between the measure of a central angle and arc length.</p>	<p>Student Edition: 454-458, 462-467, 468-473, 474-477, 592-597, 600-605, 605-611</p> <p>Teacher Wraparound Edition: ICE 463-465, 593-594, 607-608, 613-614</p> <p>Teacher Resources: <i>Practice</i> 458, 592 <i>Study Guide</i> 456, 590</p>
<p>3. Know and use properties of two- and three-dimensional figures to solve real-world and mathematical problems such as: finding area, perimeter, volume and surface area; applying direct or indirect methods of measurement; the Pythagorean theorem and its converse; and properties of 45° -45° -90° and 30° -60° -90° triangles.</p>	<p>Student Edition: 256-261, 413-418, 419-424, 425-430, 504-509, 510-515, 516-521, 522-527, 528-533, 554-558, 559-563, 564-569, 572-577</p> <p>Teacher Resources: <i>Practice</i> 567 <i>Study Guide</i> 259</p>
<p>4. Apply the basic concepts of right triangle trigonometry including sine, cosine and tangent to solve real-world and mathematical problems.</p>	<p>Student Edition: 564-569, 572-577 <i>Investigation</i> 570-571</p> <p>Teacher Wraparound Edition: 5MC 572, 586; ICE 565-567, 573-574</p> <p>Teacher Resources: <i>Enrichment</i> 564 <i>Practice</i> 562, 567 <i>Skills Practice</i> 561, 566 <i>Study Guide</i> 560, 565</p>
<p>5. Use coordinate geometry to represent and examine geometric concepts such as the distance between two points, the midpoint of a line segment, the slope of a line and the slopes of parallel and perpendicular lines.</p>	<p>Student Edition: 76-81, 168-173, 174-179, 262-267, 660-665, 676-680</p> <p>Teacher Wraparound Edition: 5MC 174; ICE 77-78, 169-171, 263-264, 661-663</p> <p>Teacher Resources: <i>Practice</i> 157, 656 <i>Study Guide</i> 65, 253</p>

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<p>6. Use numeric, graphic and symbolic representations of transformations such as reflections, translations and change of scale in one, two and three dimensions to solve real-world and mathematical problems.</p>	<p>Student Edition: 198-202, 687-690, 692-696, 697-702, 703-707</p> <p>Teacher Wraparound Edition: 5MC 203; ICE 199-200, 688, 693</p> <p>Teacher Resources: <i>Practice</i> 191, 685 <i>Study Guide</i> 189, 683, 688, 693</p>
<p>7. Perform basic constructions with a straightedge and compass.</p>	<p>Student Edition: <i>Hands-On Geometry</i> 65, 99, 107, 130-131, 162, 210, 228, 234-235, 425, 474-475 <i>Investigation</i> 340-341, 380-381</p> <p>Teacher Resources: <i>Enrichment</i> 99, 232 <i>Practice</i> 57</p>
<p>8. Draw accurate representations of planar figures using a variety of tools.</p>	<p>Student Edition: 67 #22, 99-100, 315 #29-#34, 498 #1, 615 #1 <i>Hands-On Geometry</i> 104, 228, 283, 328, 469, 554, 559 <i>Investigation</i> 102-103, 208-209, 244-245</p>
<p>C. Measurement</p>	
<p>Standard: Use the interconnectedness of geometry, algebra and measurement to explore real-world and mathematical problems.</p>	