



Geometry

Concepts and Applications

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STANDARDS		PAGE REFERENCES
NUMBER AND OPERATIONS		
1.	Compute and determine the reasonableness of a result in mathematical and real-world situations with and without technology.	
a.	Apply problem-solving skills to solve and verify the solutions for unknown measures in similar polygons. (DOK 2)	Student Edition: 357 Example 2, 359 #6-#7, 360 #15-#20, 367 #14-#16 <i>Hands-On Geometry</i> 362 <i>Investigation</i> 432-433 Teacher Wraparound Edition: IE 364; M 433; ML 362; RA 365
b.	Given exact irrational solutions, determine the best rational estimation. (DOK 2)	Student Edition: 548-553, 555 Example 1, 557 #6, #15, 561 Example 4, 569 #23 <i>Graphing Calculator Exploration</i> 478 #2 Teacher Wraparound Edition: EC 563, IE 551, 555

STANDARDS		PAGE REFERENCES
c.	Solve real-world or application problems that involve square roots and the Pythagorean Theorem. (DOK 3)	Student Edition: 258 Example 3, 260 #38, 261 #39, 264 Example 3, 266 #27-#28, #30, 551 Example 9, 553 #43 Teacher Wraparound Edition: EC 261; IE 258; RA259
ALGEBRA		
2.	Understand relations, functions, and patterns. Analyze change using various geometric properties.	
a.	Represent data from geometric and real-world contexts with expressions, formulas, tables, charts, graphs, relations, and functions. (DOK 2)	Student Edition: 72 #36, 98 Example 7, 171 Example 5, 173 #28, 258 Example 3, 352 Example 4, 365 Example 3, 508 Example 4 Teacher Wraparound Edition: EC 81, 261
b.	Recognize and write the equation of a circle in standard form $(x-h)^2 + (y-k)^2 = r^2$ and identify the center and radius. (DOK 2)	Student Edition: 454-457, 618-622 <i>Math In the Workplace</i> 459 <i>Study Guide and Assessment</i> 626 Lesson 14-6 <i>Test</i> 627 #18-#19 Teacher Wraparound Edition: A 622; EC 622; IE 455, 619
c.	Use slope to analyze and write equations for parallel and perpendicular lines. (DOK 2)	Student Edition: 171 Example 5, 172 #7-#8, #19-#22, 197 #25 <i>Graphing Calculator Exploration</i> 170 <i>Hands-On Geometry</i> 169 <i>Preparing for Standardized</i> <i>Tests</i> 545 #6 <i>Study Guide and Assessment</i> 182 #38 Teacher Wraparound Edition: IE 171

STANDARDS		PAGE REFERENCES
d.	Apply the Midpoint and Distance Formulas to solve application problems involving the coordinate plane. (DOK 2)	Student Edition: 78, 80 #20-#31, 81 #32-#35, 262-266, 618, 661 <i>Graphing Calculator Exploration</i> 79 <i>Preparing for Standardized Tests</i> 346 Example 2 Teacher Wraparound Edition: EC 267; IE 78, 264, 661
e.	Determine the effects of rigid (translations, rotations, and reflections) and nonrigid (dilations) motions and compositions when performed on objects on the coordinate plane. (DOK 2)	Student Edition: 687-690, 691-695, 697-702, 703-707 Teacher Wraparound Edition: EC 201, 690, 707; IE 688, 693, 698-699, 704
GEOMETRY		
3.	Investigate, apply, and prove properties and theorems from postulates and definitions related to angles, lines, circles, polygons, and two- and three dimensional figures. Explore applications of patterns and transformational geometry.	
a.	Use inductive reasoning to make conjectures and deductive reasoning to make valid conclusions. (DOK 3)	Student Edition: 4-9, 638-643 <i>Investigation</i> 10-11, 666-667 Teacher Wraparound Edition: EC 9; IE 639-640; RA 640
b.	Develop and evaluate mathematical arguments and proofs to include paragraph, two-column, and flow chart forms. (DOK 3)	Student Edition: 644-647, 649-653, 654-659, 660-665 <i>Investigation</i> 666-667 Teacher Wraparound Edition: A 648; EC 653; IE 645, 650-651, 661-663
c.	Identify, classify, and apply angle relationships formed by parallel lines cut by transversals. (DOK 2)	Student Edition: 148-153, 156-161, 162-167 Teacher Wraparound Edition: EC 153, 161, 167; IE 149-150, 157, 164; RA 151
d.	Use the properties of altitudes, medians, angle bisectors, and perpendicular bisectors of triangles to solve problems. (DOK 2)	Student Edition: 228-233, 234-239, 240-243 Teacher Wraparound Edition: 5MC 246; EC 233, 239, 243; IE 229, 235-236, 241

STANDARDS		PAGE REFERENCES
e.	Classify triangles and apply postulates and theorems to test for triangle inequality, congruence, and similarity. (DOK 2)	Student Edition: 188-192, 203-207, 211-214, 215-219 <i>Investigation</i> 208-209 Teacher Wraparound Edition: 5MC 193; IE 189-190, 204-205, 212; ML 203
f.	Determine and justify if a given shape could be tessellated. (DOK 2)	Student Edition: 440-444, 458 #32, 467 #40, 533 #25-#26, 558 #23, 702 #16 <i>Investigation</i> 709 <i>Study Guide and Assessment</i> 448 Lesson 10-7 Teacher Wraparound Edition: IE 441
g.	Describe and draw cross-sections of prisms, cylinders, pyramids, and cones. (DOK 1)	Student Edition: 521 #17 <i>Investigation</i> 502-503 Teacher Wraparound Edition: ML 502
h.	Graph a vector and determine the magnitude and direction of a given vector. (DOK 2)	Student Edition: <i>Investigation</i> 74-75 Teacher Wraparound Edition: ML 74; TT 75
i.	Given the pre-image or image, find figures obtained by applying reflections, translations, rotations, and dilations; describe and justify the method used. (DOK 2)	Student Edition: 198-202, 267 #32, 687-690, 692-696, 697-702, 703-707 Teacher Wraparound Edition: EC 201; IE 199, 688, 693, 699, 704
MEASUREMENT		
4.	Select and apply various strategies, tools, and formulas to calculate length, surface area, volume, and angle measurements.	
a.	Use the properties of circles using arc, angle, and segment relationships to find missing measures. (DOK 2)	Student Edition: 470-473, 587-591, 601-605, 607-611 Teacher Wraparound Edition: EC 611; IE 455, 463, 470-471, 587, 602, 607

STANDARDS		PAGE REFERENCES
b.	Solve real-world applications and mathematical problems to find missing measurements in right triangles by applying special right triangle relationships, geometric means, or trigonometric functions. (DOK 2)	Student Edition: 256-261, 554-558, 559-563, 564-569, 572-577 Teacher Wraparound Edition: 5MC 262; A 261; EC 261, 577; IE 257-258, 555, 565; RA 562
c.	Solve real-world and mathematical problems involving the lateral area, surface area and volume of three-dimensional figures, including prisms, cylinders, cones, pyramids, and spheres. (DOK 2)	Student Edition: 504-509, 510-515, 517-521, 531-533, 535-537, 523-527, 528-533 <i>Hands-On Lab</i> 522 Teacher Wraparound Edition: A 515; EC 515, 533; IE 511-512, 523-524, 529-530; ML 523
d.	Explain and use the properties of 45-45-90 and 30-60-90 triangles. (DOK 2)	Student Edition: 554-558, 559-563 <i>Study Guide and Assessment</i> 579 Lesson 13-2, Lesson 13-3 Teacher Wraparound Edition: A 558; IE 555-556, 561; RA 557, 562
e.	Apply the relationships of sine, cosine, and tangent to problems involving right triangles. (DOK 2)	Student Edition: 564-569, 572-577 <i>Study Guide and Review</i> 579 Lesson 13-4, 580 Lesson 13-5 Teacher Wraparound Edition: EC 577; IE 565-567, 573
DATA ANALYSIS & PROBABILITY		
5.	Represent, analyze, and make inferences based on data with and without the use of technology.	
a.	Apply multiple strategies and representations, including area models, to solve probability problems. (DOK 2)	Student Edition: 438 #29, 484 Example 3, 486 #7, #24-#25, 487 #28c Teacher Wraparound Edition: A 487; CT 491