

GLENCOE CORRELATION
GEOMETRY: CONCEPTS AND APPLICATIONS
OKLAHOMA
Priority Academic Student Skills
Mathematics Content Standards
Geometry

CONTENT STANDARDS	PAGE REFERENCES
Standard 1: Logical Reasoning - The student will use deductive and inductive reasoning to solve problems.	
1. Properties and Relationships of Figures	
a. Identify the relationships of parallel lines with a transversal.	SE: 148-153, 156-161, 162-167, 173 #31, 179 #40, 181 #17-#29, 183 #12-#14 TWE: OEA 161 RA 151, 158
b. Identify relationships between pairs of angles (e.g., adjacent, complementary, vertical).	SE: 110-114, 116-121, 122-127, 133 #28-#29, 135 #22-#28, 137 #11-#13 TWE: OEA 114 RA 112, 119, 125
2. Determine and use the relationships of congruency and similarity to determine unknown values.	SE: 203-207, 356-361, 362-367, 368-373, 378 #33-#35, 382-387, 388-393, 395 #19, 396 #30 TWE: RA 360
3. Use logical reasoning skills (inductive and deductive) to make and test conjectures, formulate counter examples, follow logical arguments, judge the validity of arguments and construct simple valid arguments.	SE: 4-9, 17 #37, 45 #16-#18, 632-637, 638-643, 644-648, 654-659, 660-665 <i>Chapter 1 Investigation</i> 10-11 TWE: RA 7
Standard 2: Properties of 2- and 3-Dimensional Figures - The student will use the properties and formulas of geometric figures to solve problems.	
1. Polygons	
a. Identify and describe polygons (e.g., convex, concave, regular).	SE: 188-192, 310-315, 316-321, 327-332, 333-338 <i>Chapter 8 Investigation</i> 340-341
b. Apply the interior and exterior angle sum of convex polygons to solve problems.	SE: 193-197, 282-287, 312-313, 321 #30-#31, 342 #15-#16 TWE: EC 197, 287 OEA 197 RA 196, 285
c. Develop and apply the properties of quadrilaterals to solve problems (e.g., rectangles, parallelograms, rhombi, trapezoids, kites).	SE: 316-321, 327-332, 333-338, 343 #24-#30 TWE: EC 321, 332 OEA 338 RA 319, 337 TT 327
2. Draw and analyze 2- and 3-dimensional figures.	SE: 29-34, 496-501, 508 #2, 509 #20, 513 #1, 520 #2 <i>Chapter 12 Investigation</i> 502-503 <i>Chapter 3 Investigation</i> 102-103 <i>Graphing Calculator Exploration</i> 504 <i>Hands-On Geometry</i> 65

CONTENT STANDARDS	PAGE REFERENCES
3. Use properties of 2- and 3-dimensional figures to determine unknown values (e.g., given the perimeter/circumference, find the area).	SE: 40 #29-#30, 44 #31, 45 #24, 47 #8, 514 #25, 526 #23
4. Compute length, perimeter or circumference, area, volume, and surface area of geometric figures with missing information and correctly identify the appropriate unit of measure of each.	SE: 35-40, 44 #28-#31, 425-430, 478-482, 483-487, 490 #29-#38, 504-509, 510-515, 516-521, 522-527
5. Use geometric tools (e.g., protractor, compass, straight edge) to construct a variety of figures.	SE: 29-34 <i>Chapter 14 Investigation</i> 598-599 <i>Chapter 8 Investigation</i> 340-341 <i>Hands-On Geometry</i> 65, 99, 130-131, 162, 234-235, 425, 474-475
6. Find angle measures and arc measures related to circles.	SE: 462-467, 477 #22, 489 #15-#20, 586-591, 624 #11-#14 TWE: RA 465, 589
7. Chords, Secants, and Tangents	
a. Identify and describe the relationship between two chords that intersect in the interior of a circle.	SE: 600-605, 612-617, 625 #19, 626 #24, 627 #11, #16-#17, 637 #39-#41
b. Identify and describe the relationship between two secants that intersect in the exterior of a circle.	SE: 600-605, 625 #18-#19, 626 #23, #26, 627 #10 TWE: OEA 605
c. Identify and describe the relationship between a secant and a tangent that intersect in the exterior of a circle.	SE: 592-597, 606-611, 613-614, 622 #33, 625 #15, #21-#22, 627 #14-#15 TWE: EC 597, 611, 617
Standard 3: Coordinate Geometry - The student will solve problems with geometric figures in the coordinate plane.	
1. Use transformations (reflection, rotation, translation) within coordinate geometry (e.g., reflect points across the <i>y</i> -axis).	SE: 687-690, 692-696, 697-702, 707 #27, 711 #20-#23, 712 #24-#25 TWE: EC 696, 702 OEA 690 RA 688
2. Use coordinate geometry to find the distance between two points; the midpoint of a segment; and to calculate the slopes of parallel, perpendicular, horizontal, and vertical lines.	SE: 76-81, 84 #33-#34, 85 #15-#17, 172 #19-#24, 182 #35-#38, 183 #18-#20, 262-267, 270 #31-#34 TWE: EC 267 OEA 81
3. Given a set of points determine the type of figure based on its properties (e.g., parallelogram, isosceles triangle, regular octagon).	SE: 265 #10, 266 #24-#26, 270 #34, 660-665 TWE: EC 665 OEA 665 RA 662
Standard 4: Angles, Triangles and Similar Polygons - The student will use the properties of angles, right triangles, and similar polygons to solve problems.	
1. Solve problems using properties of angles (e.g., interior, exterior, complementary, vertical, angle sums, 30-60-90).	SE: 104-106, 110-114, 116-121, 122-127, 135 #27-#28, 136 #29-#32, 151 ex 5, 157 ex 3, 284 ex 2 TWE: EC 121

CONTENT STANDARDS	PAGE REFERENCES
2. Use the Pythagorean Theorem and its converse to find missing side lengths and to determine acute, right, and obtuse triangles.	SE: 256-261, 266 #30, 270 #27-#30, 271 #17, 524 ex 2 <i>Chapter 10 Investigation 432-433</i> <i>Hands-On Geometry 388</i> TWE: EC 261
3. Apply the 45-45-90 and 30-60-90 right triangle relationships to solve problems.	SE: 554-558, 559-563, 569 #22, 579 #17-#24, 581 #7-#12 TWE: EC 558, 563 MTL 554 OEA 563 RA 557
4. Express the trigonometric functions as ratios and derive the relationship between sine, cosine, and tangent ratios, and use to solve real-world problems.	SE: 564-569, 572-577, 579 #25-#27, 580 #28-#32, 581 #13-#18, 591 #28 TWE: EC 577 OEA 577
5. Similar Polygons	
a. Use similar figures to construct ratios and solve for a missing side.	SE: 327, 356-361, 362-367, 368-373, 387, 393 #32, 396 #32, 397 #11, 412 #22 TWE: EC 361, 373
b. Use ratios of similar figures to find linear distance, perimeter, area, and volume.	SE: 360 #24, 373 #24, 388-393, 396 #30-#31, 397 #20, 535-536 TWE: EC 361, 393 OEA 393 RA 391

Codes Used for TWE Pages

EC	Extra Credit
MTL	Motivating the Lesson
OEA	Open-Ended Assessment
RA	Re-Teaching Activity
TT	Teaching Tips