

Publisher: Glencoe/McGraw-Hill

Program Title: © 2004 CA Geometry: Concepts and Applications

Components: Student Edition/Teacher Wraparound Edition

Grade Level(s): Grades 8 through 12

Intended Audience: Students who have successfully completed Algebra I.

**Standards Map - Basic Comprehensive Program
Grades Eight Through Twelve - Mathematics**

| Grade | Standard # | Text of Standard | PUBLISHER CITATIONS* | | | FOR LEA USE ONLY | | |
|-----------------|------------|---|---|---|---|------------------|--|--|
| | | | Introduced | Practiced | Taught to Mastery | Meets Standard | | Local Education Agency Evaluator Notes |
| DISCIPLINE | | | | | Y | N | | |
| Geometry | | The geometry skills and concepts developed in this discipline are useful to all students. Aside from learning these skills and concepts, students will develop their ability to construct formal, logical arguments and proofs in geometric settings and problems. | | | | | | |
| 8-12 | 1.0 | Students demonstrate understanding by identifying and giving examples of undefined terms, axioms, theorems, and inductive and deductive reasoning. | <i>SE and TWE:</i> 4-12-14, 18-20, 62-64, 638-639 | <i>SE:</i> 15-17, 20-22, 65-67, 641-643 | <i>SE and TWE:</i> 12-14, 18-20, 62-64, 638-640 | | | |
| 8-12 | 2.0 | Students write geometric proofs, including proofs by contradiction. | <i>SE and TWE:</i> 644-645, 649-651, 654-656, 660-663 | <i>SE:</i> 646-648, 651-653, 656-659, 663-665 | <i>SE and TWE:</i> 644-645, 649-651, 654-656, 660-663 | | | |

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| 8-12 | 3.0 | Students construct and judge the validity of a logical argument and give counterexamples to disprove a statement. | <i>SE and TWE:</i> 6, 24-25 | <i>SE:</i> 7-9, 26-28 | <i>SE and TWE:</i> 6, 24-26 | | | |
| 8-12 | 4.0 | Students prove basic theorems involving congruence and similarity. | <i>SE and TWE:</i> 203-205, 210-212, 215-217, 356-358, 362-365 | <i>SE:</i> 205-207, 212-214, 217-219, 359-361, 365-367 | <i>SE and TWE:</i> 203-205, 210-212, 215-217, 362-365, | | | |
| 8-12 | 5.0 | Students prove that triangles are congruent or similar, and they are able to use the concept of corresponding parts of congruent triangles. | <i>SE and TWE:</i> 203-205, 210-212, 215-217, 362-365 | <i>SE:</i> 205-207, 212-214, 217-219, 365-367 | <i>SE and TWE:</i> 203-205, 210-212, 215-217, 362-365 | | | |
| 8-12 | 6.0 | Students know and are able to use the triangle inequality theorem. | <i>SE and TWE:</i> 296-298 | <i>SE:</i> 298-300 | <i>SE and TWE:</i> 296-298 | | | |
| 8-12 | 7.0 | Students prove and use theorems involving the properties of parallel lines cut by a transversal, the properties of quadrilaterals, and the properties of circles. | <i>SE and TWE:</i> 148-151, 312-313, 317-319, 323-324, 329, 334-335, 455-456, 463-465, 468-471, 475, 479-480, 483-485 | <i>SE:</i> 151-153, 313-315, 319-321, 324-326, 330-332, 336-338, 456-458, 465-467, 471-473, 476-477, 480-482, 485-487 | <i>SE and TWE:</i> 148-151, 312-313, 317-319, 323-324, 329, 334-335, 455-456, 463-465, 468-471, 475, 479-480, 483-485 | | | |
| 8-12 | 8.0 | Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures. | <i>SE and TWE:</i> 35-38, 413-415, 419-422, 425-428, 504-508, 510-512, 516-519, 522-525, 528-530 | <i>SE:</i> 38-40, 416-418, 422-424, 428-430, 508-509, 513-515, 520-521, 525-527, 531-533 | <i>SE and TWE:</i> 35-38, 413-415, 419-422, 425-428, 504-508, 510-512, 516-519, 522-525, 528-530 | | | |

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| 8-12 | 9.0 | Students compute the volumes and surface areas of prisms, pyramids, cylinders, cones, and spheres; and students commit to memory the formulas for prisms, pyramids, and cylinders. | SE and TWE: 504-508, 510-512, 516-519, 522-525, 528-530 | SE: 508-509, 513-515, 520-521, 525-527, 531-533 | SE and TWE: 504-508, 510-512, 516-519, 522-525, 528-530 | | | |
| 8-12 | 10.0 | Students compute areas of polygons, including rectangles, scalene triangles, equilateral triangles, rhombi, parallelograms, and trapezoids. | SE and TWE: 36-38, 413-415, 419-422, 425-428 | SE: 38-40, 416, 418, 422-424, 428-430 | SE and TWE: 36-38, 413-415, 419-422, 425-428 | | | |
| 8-12 | 11.0 | Students determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids. | SE and TWE: You decide?, 416; 422, 535-537 Enrichment Masters: 73 | SE: You decide?, 416; 422, 537-539 Enrichment Masters: 73 | SE and TWE: 535-537 | | | |
| 8-12 | 12.0 | Students find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems. | SE and TWE: 282-285, 408-410 | SE: 285-287, 411-412 | SE and TWE: 282-285, 408-410 | | | |
| 8-12 | 13.0 | Students prove relationships between angles in polygons by using properties of complementary, supplementary, vertical, and exterior angles. | SE and TWE: 408-410 | SE: 411-412 | SE and TWE: 408-410 | | | |
| 8-12 | 14.0 | Students prove the Pythagorean theorem. | SE and TWE: 256-259 | SE: 259-261 | SE and TWE: | | | |
| 8-12 | 15.0 | Students use the Pythagorean theorem to determine distance and find missing lengths of sides of right triangles. | SE and TWE: 256-259 | SE: 259-261 | SE and TWE: | | | |
| 8-12 | 16.0 | Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line. | SE and TWE: 106-107, 130-131, 162, 234-235, 425-426, 474-475 Enrichment Masters: 14 | SE: 108, 237, 476-477 Enrichment Masters: 14 | SE and TWE: 106-107, 130-131, 162, 234-235, 425-426, 474-475 | | | |

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| 8-12 | 17.0 | Students prove theorems by using coordinate geometry, including the midpoint of a line segment, the distance formula, and various forms of equations of lines and circles. | <i>SE and TWE:</i> 660-663 | <i>SE:</i> 663-665 | <i>SE and TWE:</i> | | | |

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 Math 8-12th Grade Standards Map --Approved by the State Board of Education on February 6, 2002.

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| 8-12 | 18.0 | Students know the definitions of the basic trigonometric functions defined by the angles of a right triangle. They also know and are able to use elementary relationships between them. For example, $\tan(x) = \sin(x)/\cos(x)$, $(\sin(x))^2 + (\cos(x))^2 = 1$. | <i>SE and TWE:</i> 564-567, 572-575 | <i>SE:</i> 567-569, 575-577 | <i>SE and TWE:</i> 564-567, 572-575 | | | |
| 8-12 | 19.0 | Students use trigonometric functions to solve for an unknown length of a side of a right triangle, given an angle and a length of a side. | <i>SE and TWE:</i> 564-567, 572-575 | <i>SE:</i> 567-569, 575-577 | <i>SE and TWE:</i> 564-567, 572-575 | | | |
| 8-12 | 20.0 | Students know and are able to use angle and side relationships in problems with special right triangles, such as 30°, 60°, and 90° triangles and 45°, 45°, and 90° triangles. | <i>SE and TWE:</i> 554-556, 559-561 | <i>SE:</i> 556-558, 562-563 | <i>SE and TWE:</i> 554-556, 559-561 | | | |
| 8-12 | 21.0 | Students prove and solve problems regarding relationships among chords, secants, tangents, inscribed angles, and inscribed and circumscribed polygons of circles. | <i>SE and TWE:</i> 454-456, 462-465, 468-471, 474-475 | <i>SE:</i> 456-458, 465-467, 471-473, 476-477 | <i>SE and TWE:</i> 454-456, 462-465, 468-471, 474-475 | | | |
| 8-12 | 22.0 | Students know the effect of rigid motions on figures in the coordinate plane and space, including rotations, translations, and reflections. | <i>SE and TWE:</i> 198-200, 687-688, 692-693, 697-700, 703-704 | <i>SE:</i> 200-202, 688-690, 694-696, 700-702, 704-707 | <i>SE and TWE:</i> 198-200, 687-688, 692-693, 697-700, 703-704 | | | |

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