

## HCPS-III for Geometry (2007) — Alignment with CORD Geometry

HCPS III Standard/Benchmark	CORD Geometry Page Numbers
<b>Standard 1: Numbers and Operations: NUMBER SENSE: Understand numbers, ways of representing numbers, relationships among numbers, and number systems</b>	
<b>Benchmark MA.G.1.1</b> Recognize situations that can be represented by vectors	pp. 391-398, pp. 438-440(exercise 2 and 4)
<b>Standard 3: Numbers and Operations: COMPUTATION STRATEGIES: Use computational tools and strategies fluently and, when appropriate, use estimation</b>	
<b>Benchmark MA.G.3.1</b> Use vector addition, subtraction, and scalar multiplication to solve problems	394-396 (vector addition), 397(exercise #11), 438-439(exercise #2), 440 (exercise #4)
<b>Standard 4: Measurement: FLUENCY WITH MEASUREMENT: Understand attributes, units, and systems of units in measurement; and develop and use techniques, tools, and formulas for measuring</b>	
<b>Benchmark MA.G.4.1</b> Use right triangle trigonometric ratios to solve for an unknown length of a side or the measure of an angle	288-294 (tangent ratio), 295-300 (sine and cosine ratios), 312-313 (exercise #2-4), 315-316 (exercise 9 and 11), 319 (exercise 16), 321 (exercise 20)
<b>Benchmark MA.G.4.2</b> Solve problems using the formulas for perimeter, circumference, area, and volume of two- and three- dimensional figures and solids	332, 334(exercise #18-22), 454-460, 461-466, 467-472, 473-476, 477-482, 500-509(exercise #1-19), 603-609, 617-621, 623-625, 626(exercise #5-8, 10-13)
<b>Benchmark MA.G.4.3</b> Determine the effect of dimension changes to perimeter, area, and volume for common geometric figures and solids	483-487, 615 (exercise #11), 621(exercise #12-13), 628-632
<b>Standard 5: Geometry and Spatial Sense: PROPERTIES AND RELATIONSHIPS: Analyze properties of objects and relationships among the properties</b>	
<b>Benchmark MA.G.5.1</b> Use inductive and deductive reasoning to create and defend geometric conjectures	666-72, 73-78, 84-88, 89-94, 95-102, 103-109, 110-118, 123-135
<b>Benchmark MA.G.5.2</b> Use the concept of corresponding parts to prove that triangles, and other polygons, are congruent or similar	164-169, 170-176, 177-182, 200-209, 222-228, 229-236, 237-240, 241-246
<b>Benchmark MA.G.5.3</b> Explain properties and characteristics of angle bisectors, perpendicular bisectors, and parallel lines	33-39(parallel), 27(construction 2), 29(construction 6), 189-194,
<b>Benchmark MA.G.5.4</b> Use the relationship between pairs of angles (e.g., complementary, supplementary, vertical, exterior, interior) to determine unknown angle measures or definitions of properties	34-39, 105(activity & example 4), 107 (exercise #5-15), 110-118
<b>Benchmark MA.G.5.5</b> Apply the concepts of special right triangles to real-world situations	282-287, 321(exercise #19)
<b>Benchmark MA.G.5.6</b> Use the relationships among properties of circles (e.g., chords, secants, tangents, arcs, circumference, radius, diameter, inscribed polygons) to solve problems	522-529, 530-538, 539-546, 547-553, 567-573(exercise #1-13)
<b>Standard 6: Geometry and Spatial Sense: TRANSFORMATIONS AND SYMMETRY: Use transformations and symmetry to analyze mathematical situations</b>	
<b>Benchmark MA.G.6.1</b> Describe three-dimensional figures that are formed by translating two-dimensional figures	633-637

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<b>Standard 7: Geometry and Spatial Sense: VISUAL AND SPATIAL SENSE: Use visualization and spatial reasoning to solve problems both within and outside of mathematics</b>	
<b>Benchmark MA.G.7.1</b> Draw cross-sections, truncations, and compositions/decompositions of three-dimensional objects	<b>580-586, 587-593, 633-637, 639-641(activity 2)</b>
<b>Benchmark MA.G.7.2</b> Use concrete objects, pictorial representations, computer software, or graphing calculators to solve geometric problems	<b>42-44, 120-122, 122, 196-197, 198-199, 310-311, 365-366, 433-435, 497-499, 563-566, 639-641, 705-708</b>
<b>Standard 8: Geometry and Spatial Sense: REPRESENTATIONAL SYSTEMS: Select and use different representational systems, including coordinate geometry</b>	
<b>Benchmark MA.G.8.1</b> Use coordinate geometry to produce formulas and prove theorems for the midpoint of a line segment, the distance formula, and forms of equations of lines and circles	<b>384-390, 399-406, 407-415, 416-423, 424-431, 516-521</b>
<b>Benchmark MA.G.8.2</b> Describe the concept of rigid motion on figures in the coordinate plane, including rotation, translation, and reflection	<b>662-669, 670-676, 677-683, 684-689, 696-699, 705-708</b>