

MATH *Connections*[®]

Correlation
Florida Department of Education
Instructional Materials Correlation
Course Standards

Subject: Mathematics

Grade Level: 9–12

Course Title: Geometry

Course Code: 1206310

Submission Title:

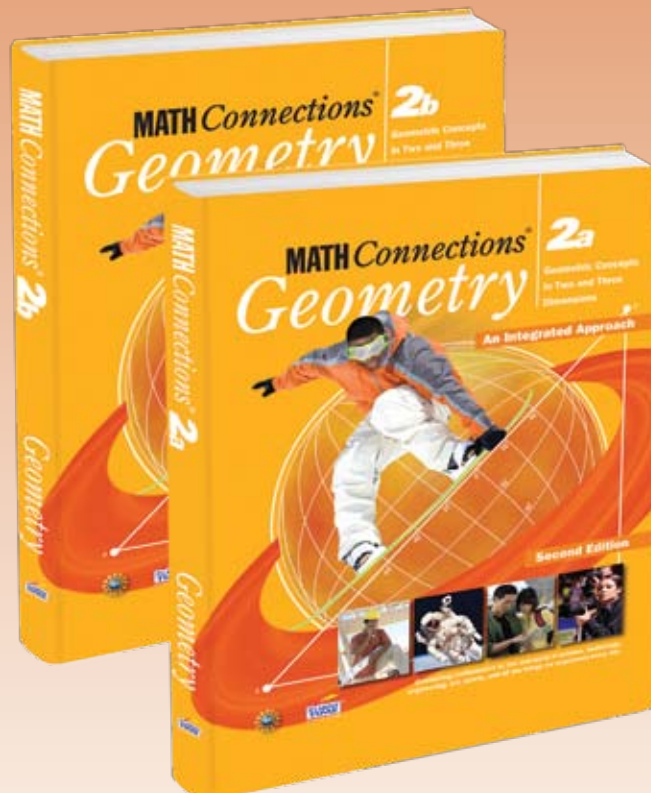
MATH Connections:

Geometry, volumes a & b

Title ID: 1522

Publisher: It's About Time,
Herff Jones Education Division

Publisher ID: 35-1637714-01



www.its-about-time.com

Benchmark Code	Benchmark	Pages or locations where benchmark is directly addressed in major tool	In-Depth / Mentioned
LA.1112.1.6.1	The student will use new vocabulary that is introduced and taught directly;	Book 2a: 4, 6, 8, 12, 16, 17, 19, 20, 27, 28, 65, 66, 93, 117, 128, 136, 137, 154, 155, 158, 163, 164, 170, 174, 177, 188, 226, 281, 287 Book 2b: 349, 353, 355, 358, 362	
LA.1112.1.6.2	The student will listen to, read, and discuss familiar and conceptually challenging text;	Prevalent throughout. Some examples: Book 2a: 8, 12, 41, 114, 117, 124, 127, 128, 165 - 167, 187 Book 2b: 349 - 352	
LA.1112.1.6.5	The student will relate new vocabulary to familiar words;	Book 2a: 4 - 6, 8, 12, 13, 16, 17, 19, 20, 26, 27, 28, 45, 65, 66, 66, 93, 117, 128, 129, 136, 137, 149, 154, 155, 158, 163, 164, 169, 170, 174, 177, 188, 226, 273, 276, 281, 287 Book 2b: 349, 353, 354, 355, 358, 362, 364, 366, 378, 399, 409, 415, 464, 469, 480, 622, 640, 641, 644	
LA.910.1.6.1	The student will use new vocabulary that is introduced and taught directly;	Book 2a: 4, 6, 8, 12, 16, 17, 19, 20, 27, 28, 65, 66, 93, 117, 128, 136, 137, 154, 155, 158, 163, 164, 170, 174, 177, 188, 226, 281, 287 Book 2b: 349, 353, 355, 358, 362	
LA.910.1.6.2	The student will listen to, read, and discuss familiar and conceptually challenging text;	Prevalent throughout. Some examples: Book 2a: 8, 12, 41, 114, 117, 124, 127, 128, 165 - 167, 187 Book 2b: 349 - 352	
LA.910.1.6.5	The student will relate new vocabulary to familiar words;	Book 2a: 4 - 6, 8, 12, 13, 16, 17, 19, 20, 26, 27, 28, 45, 65, 66, 66, 93, 117, 128, 129, 136, 137, 149, 154, 155, 158, 163, 164, 169, 170, 174, 177, 188, 226, 273, 276, 281, 287 Book 2b: 349, 353, 354, 355, 358, 362, 364, 366, 378, 399, 409, 415, 464, 469, 480, 622, 640, 641, 644	
MA.912.D.6.2	Find the converse, inverse, and contrapositive of a statement	Book 2a: 35, 36, 39, 79, 80, 170, 188, 200 Book 2b: 366, 367, 373	
MA.912.D.6.3	Determine whether two propositions are logically equivalent.	Book 2a: 170 - 172, 200 Book 2b: 367, 372, 374	
MA.912.D.6.4	Use methods of direct and indirect proof and determine whether a short proof is logically valid.	Book 2a: 7, 36, 38, 39, 42, 44, 75, 77, 78, 85, 87, 90, 140, 141, 148, 149, 164, 171 -173, 180 - 182, 188, 193, 195, 196, 200, 201, 202, 206, 212, 214, 215, 254, 269, 290, 312, 315	
MA.912.G.1.1	Find the lengths and midpoints of line segments in two-dimensional coordinate systems.	Book 2a: 83, 84, 86, 105, 191, 198, 200, 233, 233 - 238, 307, 309	
MA.912.G.1.2	Construct congruent segments and angles, angle bisectors, and parallel and perpendicular lines using a straight edge and compass or a drawing program, explaining and justifying the process used.	Book 2a: 10, 11, 25, 26, 27, 63 - 65, 67, 70, 73, 74, 76, 108 - 114, 147, 148, 186, 194, 195, 197, 201, 239 - 256 Book 2b: 369 - 372, 435 - 447, 451	
MA.912.G.1.3	Identify and use the relationships between special pairs of angles formed by parallel lines and transversals.	Book 2a: 169 - 177, 183, 184, 186, 229, 231, 242 - 244, 246, 251 - 266	
MA.912.G.2.1	Identify and describe convex, concave, regular, and irregular polygons.	Book 2a: 201 - 210	
MA.912.G.2.2	Determine the measures of interior and exterior angles of polygons, justifying the method used.	Book 2a: 159, 172, 173, 203 - 210, 228 - 231	
MA.912.G.2.3	Use properties of congruent and similar polygons to solve mathematical or real-world problems.	Book 2a: 44, 47, 65, 73, 178, 179, 181, 183, 184, 195, 229, 242, 243, 254, 286	
MA.912.G.2.4	Apply transformations (translations, reflections, rotations, dilations, and scale factors) to polygons. to determine congruence, similarity, and symmetry. Know that images formed by translations, reflections, and rotations are congruent to the original shape. Create and verify tessellations of the plane using polygons.	Book 2a: 22- 39, 115 - 123, 195, 196, 231, 306 Book 2b: 640 - 658, 663 - 675	
MA.912.G.2.5	Explain the derivation and apply formulas for perimeter and area of polygons (triangles, quadrilaterals, pentagons, etc.).	Book 2a: 17, 18, 20, 41, 42, 44 - 51, 54 - 62, 68, 70, 74 - 76, 84, 86, 89, 97, 101 -109, 179, 180 184 - 187, 209 - 220, 226, 232, 236, 238, 249, 253, 256, 266, 270, 276, 316, 317, 343, 345, 346	
MA.912.G.2.7	Determine how changes in dimensions affect the perimeter and area of common geometric figures.	Book 2a: 89, 90, 211 - 220, 226, 231, 232	
MA.912.G.3.1	Describe, classify, and compare relationships among quadrilaterals including the square, rectangle, rhombus, parallelogram, trapezoid, and kite.	Book 2a: 30, 32 - 36, 38, 39	
MA.912.G.3.2	Compare and contrast special quadrilaterals on the basis of their properties.	Book 2a: 30, 32 - 36, 38, 39, 116, 202, 218, 233 - 238, 242 -247, 250 - 256	
MA.912.G.3.3	Use coordinate geometry to prove properties of congruent, regular, and similar quadrilaterals.	Book 2a: 233 - 238	
MA.912.G.3.4	Prove theorems involving quadrilaterals.	Book 2a: 32 - 34, 36, 38, 233 - 238, 242 -247, 250 - 256	

Benchmark Code	Benchmark	Pages or locations where benchmark is directly addressed in major tool	In-Depth / Mentioned
MA.912.G.4.1	Classify, construct, and describe triangles that are right, acute, obtuse, scalene, isosceles, equilateral, and equiangular.	Book 2a: 24, 31, 44, 45, 63 - 69, 74, 77 - 80, 108 - 114, 181, 186, 194 - 197 Book 2b: 338 - 346	I
MA.912.G.4.2	Define, identify, and construct altitudes, medians, angle bisectors, perpendicular bisectors, orthocenter, centroid, incenter, and circumcenter.	Book 2a: 108 - 114, 240	I
MA.912.G.4.3	Construct triangles congruent to given triangles.	Book 2a: 63 - 65, 73, 74, 178, 181, 197	I
MA.912.G.4.4	Use properties of congruent and similar triangles to solve problems involving lengths and areas.	Book 2a: 44, 141, 142, 144 - 147, 178 - 188, 195, 211, 212, 216 - 220, 253, 261, 272, 274, 286	I
MA.912.G.4.5	Apply theorems involving segments divided proportionally.	Book 2b: 449 - 452	I
MA.912.G.4.6	Prove that triangles are congruent or similar and use the concept of corresponding parts of congruent triangles.	Book 2a: 44, 45, 178 - 200, 253 - 256, 274, 286	
MA.912.G.4.7	Apply the inequality theorems: triangle inequality, inequality in one triangle, and the Hinge Theorem.	Book 2a: 181, 197	M
MA.912.G.5.1	Prove and apply the Pythagorean Theorem and its converse.	Book 2a: 77 - 87, 90, 102, 103, 105, 106, 133, 134, 137, 161, 165, 174, 179, 180, 185, 186, 191, 198 - 200, 231, 233 - 238, 275, 276, 302, 307, 309, 314, 315, 338, 339, 343 Book 2b: 398, 458 - 460, 462, 463, 466 - 468, 489, 501, 504, 525 - 530	I
MA.912.G.5.2	State and apply the relationships that exist when the altitude is drawn to the hypotenuse of a right triangle.	Book 2a: 179, 180, 342, 346	M
MA.912.G.5.3	Use special right triangles ($30^\circ - 60^\circ - 90^\circ$ and $45^\circ - 45^\circ - 90^\circ$) to solve problems.	Book 2a: 230, 338 - 346	I
MA.912.G.5.4	Solve real-world problems involving right triangles.	Book 2a: 81, 82, 84 - 86, 100, 216, 260, 263, 264, 266, 267, 271 - 275, 280, 281, 286, 289, 295, 296, 297, 298 Book 2b: 398, 458 - 460, 462, 463, 466 - 468, 489, 501, 504, 525 - 530	I
MA.912.G.6.2	Define and identify: circumference, radius, diameter, arc, arc length, chord, secant, tangent and concentric circles.	Book 2a: 264, 269, 296 Book 2b: 353, 354, 358, 359, 402	I
MA.912.G.6.4	Determine and use measures of arcs and related angles (central, inscribed, and intersections of secants and tangents).	Book 2b: 402 - 414, 447 - 452	I
MA.912.G.6.5	Solve real-world problems using measures of circumference, arc length, and areas of circles and sectors.	Book 2b: 359, 387, 388, 392, 398 - 414, 426, 429 - 434, 443, 499 - 501, 517 - 520	I
MA.912.G.6.6	Given the center and the radius, find the equation of a circle in the coordinate plane or given the equation of a circle in center-radius form, state the center and the radius of the circle.	Book 2b: 380, 381, 383 - 386, 544, 547	I
MA.912.G.6.7	Given the equation of a circle in center-radius form or given the center and the radius of a circle, sketch the graph of the circle.	Book 2b: 378 - 382, 547, 548	I
MA.912.G.7.1	Describe and make regular, non-regular, and oblique polyhedra, and sketch the net for a given polyhedron and vice versa.	Book 2b: 456 - 460, 464 - 468, 563, 564, 577 - 582	I
MA.912.G.7.2	Describe the relationships between the faces, edges, and vertices of polyhedra.	Book 2b: 578 - 581	I
MA.912.G.7.4	Identify chords, tangents, radii, and great circles of spheres	Book 2a: 4, 5, 264, 269, 296 Book 2b: 545 - 547	M
MA.912.G.7.5	Explain and use formulas for lateral area, surface area, and volume of solids.	Book 2a: 96 - 101, 105, 107, 221 - 226, 232 Book 2b: 484 - 505, 467, 480, 483, 504, 564, 569 - 576	I
MA.912.G.7.6	Identify and use properties of congruent and similar solids.	Book 2a: 221 - 226	I
MA.912.G.7.7	Determine how changes in dimensions affect the surface area and volume of common geometric solids.	Book 2a: 221 - 226	I
MA.912.G.8.1	Analyze the structure of Euclidean geometry as an axiomatic system. Distinguish between undefined terms, definitions, postulates, and theorems.	Book 2a: 12, 108 Book 2b: 464, 465 Presented in depth Ch. 8 Year 3	M
MA.912.G.8.2	Use a variety of problem-solving strategies, such as drawing a diagram, making a chart, guess-and-check, solving a simpler problem, writing an equation, and working backwards.	Book 2a: 20, 21, 26, 43, 45, 57, 58, 81, 100, 101, 105, 181, 194, 198, 199, 200, 219, 220, 228, 312, 319, 320, 330, 334 Book 2b: 363, 376, 404, 495, 508, 586, 597, 605	I

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MA.912.G.8.3	Determine whether a solution is reasonable in the context of the original situation.	Book 2a: 20, 41, 68, 135, 140, 148, 151, 163, 165, 169, 186 Book 2b: 354, 377, 382, 383, 392, 399, 436, 437, 515, 520, 523, 549	I
MA.912.G.8.4	Make conjectures with justifications about geometric ideas. Distinguish between information that supports a conjecture and the proof of a conjecture.	Book 2a: 73, 84, 112, 116, 117, 122, 177, 266, 323 Book 2b: 361, 365, 382, 401, 416, 426, 443, 515, 636	I
MA.912.G.8.5	Write geometric proofs, including proofs by contradiction and proofs involving coordinate geometry. Use and compare a variety of ways to present deductive proofs, such as flow charts, paragraphs, two-column, and indirect proofs.	Book 2a: 27, 36, 37, 42, 75, 77, 78, 85, 87, 90, 148, 164, 171 - 173, 180, 183 - 186, 188, 193, 195, 196, 200, 202 - 206, 212, 214, 215, 254, 269, 250, 312 Book 2b: 361, 365, 382, 401, 416, 426, 443, 515, 636	I
MA.912.G.8.6	Perform basic constructions using straightedge and compass, and/or drawing programs describing and justifying the procedures used. Distinguish between sketching, constructing, and drawing geometric figures.	Book 2a: 10, 11, 25, 26, 27, 63 - 65, 67, 70, 73, 74, 76, 108 - 114, 147, 148, 186, 194, 195, 197, 201, 239 - 256 Book 2b: 369 - 372, 435 - 447, 451	I
MA.912.T.2.1	Define and use the trigonometric ratios (sine, cosine, tangent, cotangent, secant, cosecant) in terms of angles of right triangles.	Book 2a: 259 - 336 Book 2b: 377 - 387, 408, 489 - 492	I

<p>OVERALL INSTRUCTIONAL QUALITY The major tool introduces and builds mathematical concepts as a coherent whole. It provides opportunities to students to explore why a mathematical idea is important and in which contexts that mathematical idea can be useful. In other words, the major tool helps students learn the mathematics concepts in depth. Additionally, students are given opportunities to connect conceptual knowledge with procedural knowledge and factual knowledge. Overall, there is an appropriate balance of skill development and conceptual understanding.</p>	<p>IDENTIFY AN EXAMPLE (WITH PAGE NUMBERS OR LOCATION) DEEMED TYPICAL OF THE APPROACH TAKEN IN THE MAJOR TOOL. The Examples can be from Student or Teacher Instructional Material.</p>
Tasks are engaging and interesting enough that students want to pursue them. Real world problems are realistic and relevant to students' lives.	Book 2b: 379 - 381, 385, 386, 403 - 408
Problem solving is encouraged by the tasks presented to students. Tasks require students to make decisions, determine strategies, and justify solutions.	Book 2a: 250 - 256 Book 2b: 365 - 369
Tasks engage students in communicating mathematical ideas by writing, explaining, drawing, using symbols, talking, listening, and reading for information. Tasks encourage collaboration, discussion, individual accountability, and positive interdependence.	Book 2b: 350 - 352, 392, 393
Students are given opportunities to create and use representations to organize, record, and communicate their thinking. Tasks promote use of multiple representations and translations among them. Students use a variety of tools to understand a single concept.	Book 2a: 97, 98, 191, 192, 256
The mathematics connects to other disciplines such as reading, art, science, and history. Tasks represent mathematical ideas as interconnected and building upon each other.	Book 2a: 120 - 124, 166 - 168, 198, 199 Book 2b: 350 - 352, 464 - 466
Tasks require students to make conjectures, justify their thinking, defend their responses by using mathematical arguments, and prove mathematical statements. Students are encouraged to invent and justify solution methods. Students analyze correct and incorrect solution methods.	Book 2a: 85 - 87, 194 - 196 Book 2b: 365 - 369