

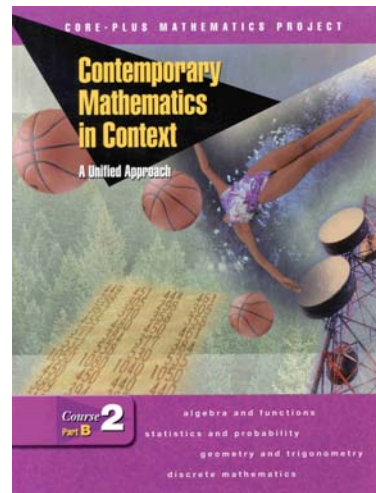
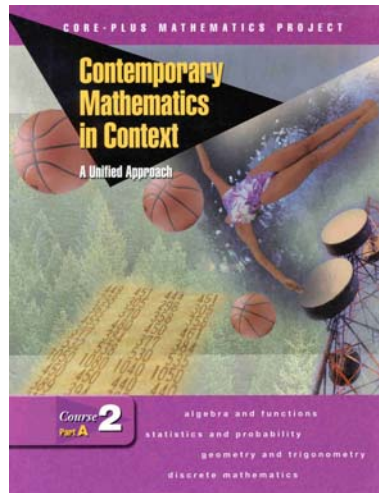
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alignment to

**Indiana
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Integrated Mathematics II**

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Course 2, Volume A: Pages 1-318

Course 2, Volume B: Pages 319-555

**GLENCOE/MCGRAW-HILL
CONTEMPORARY MATHEMATICS IN CONTEXT, COURSES 2A AND 2B**

ALIGNMENT TO

**INDIANA
ACADEMIC MATH STANDARDS FOR INTEGRATED MATHEMATICS II**

OBJECTIVES	PAGE REFERENCES
Standard 1: Algebra and Functions	
IM2.1.1 Graph a linear inequality.	This objective falls outside the scope of Glencoe/McGraw-Hill Contemporary Math in Context, Course 2. (See Course 1, 211-219 and Course 3 63-85)
IM2.1.2 Interpret given situations as functions in graphs, formulas, and words.	SE: 235–237, 238–240, 241–244, 251–252, 253–255, 259–261, 266–270, 271–273, 278–279, 282–285, 287–288, 303–305, 311–317 TWE: T235–T237, T238–T240, T241–T244, T251–T252, T253–T255, T259–T261, T266–T270, T271–T273, T278–T279, T282–T285, T287–T288, T303–T305, T311–T317
IM2.1.3 Find a linear equation that models a data set using the median fit method and use the model to make predictions.	This objective falls outside the scope of Glencoe/McGraw-Hill Contemporary Math in Context, Course 2. (See Course 3, 291-292)
IM2.1.4 Graph quadratic functions. Show and explain the effects on the graph of changing a coefficient in a quadratic function. Find and interpret the zeros and maximum or minimum value of quadratic functions.	SE: 265–270, 271–273, 274–277, 278–279, 280–281, 282–288 TWE: T265–T270, T271–T273, T274–T277, T278–T279, T280–T281, T282–T288

**GLENCOE/MCGRAW-HILL
CONTEMPORARY MATHEMATICS IN CONTEXT, COURSES 2A AND 2B**

ALIGNMENT TO

**INDIANA
ACADEMIC MATH STANDARDS FOR INTEGRATED MATHEMATICS II**

OBJECTIVES	PAGE REFERENCES
Standard 2: Geometry and Measurement	
IM2.2.1 Find the lengths and midpoints of line segments in one-or two-dimensional coordinate systems.	SE: 80–86, 87–89, 90–96, 136 TWE: T80–T86, T87–T89, T90–T96, T136 (See Course 1, 63-65, 167)
IM2.2.2 Construct congruent segments and angles, angle bisectors, and parallel and perpendicular lines using a straight edge and compass, explaining and justifying the process used.	This objective falls outside the scope of Glencoe/McGraw-Hill Contemporary Math in Context, Course 2. (See Course 3, 319-321)
IM2.2.3 Find the measures of interior and exterior angles of polygons, justifying the method used.	This objective falls outside the scope of Glencoe/McGraw-Hill Contemporary Math in Context, Course 2. (See Course 1, 386-387, 397-398 and Course 3, 295)
IM2.2.4 Identify and describe triangles that are right, acute, obtuse, scalene, isosceles, equilateral, and equiangular.	Opportunity to address SE: 306, 384–388, 395–405 TWE: T306, T384–T388, T395–T405 (See Course 1, 362–366, 383–386)
IM2.2.5 Define, identify, and construct altitudes, medians, angle bisectors, and perpendicular bisectors.	Opportunity to address SE: 108, 114–116, 125, 395–399, 409, 410 TWE: T108, T114–T116, T125, T395–T399, T409, T410

**GLENCOE/MCGRAW-HILL
CONTEMPORARY MATHEMATICS IN CONTEXT, COURSES 2A AND 2B**

ALIGNMENT TO

**INDIANA
ACADEMIC MATH STANDARDS FOR INTEGRATED MATHEMATICS II**

OBJECTIVES	PAGE REFERENCES
IM2.2.6 Use properties of congruent and similar triangles to solve problems involving lengths and areas.	SE: 127, 129, 130–133, 134–135, 141, 142–144, 148, 395–399, 408, 410–411 TWE: T127, T129, T130–T133, T134–T135, T141, T142–T144, T148, T395–T399, T408, T410–T411 (See Course 3, 297-339)
IM2.2.7 Find measures of sides, perimeters, and areas of triangles, and relate these measures to each other using formulas.	SE: 127, 129, 130–133, 134–135, 141, 142–144, 148, 395–405, 408, 410–411 TWE: T127, T129, T130–T133, T134–T135, T141, T142–T144, T148, T395–T405, T408, T410–T411 (See Course 1, 355-361, 379)
IM2.2.8 Prove, understand, and apply the inequality theorems: triangle inequality, inequality in one triangle, and the hinge theorem.	Opportunity to address SE: 384–388 TWE: T384–T388 (See Course 3, 323)
IM2.2.9 State and apply the relationships that exist when the altitude is drawn to the hypotenuse of a right triangle.	SE: 410 TWE: T410
IM2.2.10 Use special right triangles (30–60–90 and 45–45–90) to solve problems.	SE: 163, 294–298, 306–307 TWE: T163, T294–T298, T306–T307
IM2.2.11 Define and apply the trigonometric functions (sine, cosine, tangent, cotangent, secant, cosecant) defined by angles of right triangles.	SE: 431–435, 436–441, 443–449, 451–453 TWE: T431–T435, T436–T441, T443–T449, T451–T453

**GLENCOE/MCGRAW-HILL
CONTEMPORARY MATHEMATICS IN CONTEXT, COURSES 2A AND 2B**

ALIGNMENT TO

**INDIANA
ACADEMIC MATH STANDARDS FOR INTEGRATED MATHEMATICS II**

OBJECTIVES	PAGE REFERENCES
IM2.2.12 Know and use the relationships between the trigonometric functions: $\tan x = \sin x / \cos x$ and $\sin^2 x + \cos^2 x = 1$.	SE: 409 TWE: T409 (See Course 4, 464-478, 480-491)
IM2.2.13 Solve word problems involving right triangles.	SE: 134, 143, 163, 395–399, 400–405, 406–411 TWE: T134, T143, T163, T395–T399, T400–T405, T406–T411 (See Course 1, 364-372)
IM2.2.14 Find the center of a given circle. Construct the circle that passes through three given points (not in a straight line).	Opportunity to address SE: 130–133, 428–430, 441 TWE: T130–T133, T428–T430, T441
IM2.2.15 Define and identify relationships among: radius, diameter, arc, measure of an arc, chord, secant, and tangent.	SE: 419–123, 428, 429 TWE: T419–T123, T428, T429 (See Course 3, 322)
IM2.2.16 Prove theorems related to circles.	This objective falls outside the scope of Glencoe/McGraw-Hill Contemporary Math in Context, Course 2. (See Course 1, 372 and Course 3, 322)
IM2.2.17 Construct tangents to circles, and circumscribe and inscribe circles.	Opportunity to address SE: 428 TWE: T428
IM2.2.18 Define, find, and use measures of arcs and related angles (central, inscribed, and intersections of secants and tangents).	SE: 419–423, 430 TWE: T419–T423, T430 (See Course 3, 296 and 324)

**GLENCOE/MCGRAW-HILL
CONTEMPORARY MATHEMATICS IN CONTEXT, COURSES 2A AND 2B**

ALIGNMENT TO

**INDIANA
ACADEMIC MATH STANDARDS FOR INTEGRATED MATHEMATICS II**

OBJECTIVES	PAGE REFERENCES
IM2.2.19 Define and identify congruent, similar, and concentric circles.	SE: 238, 243–244, 412–418, 424–426 TWE: T238, T243–T244, T412–T418, T424–T426
IM2.2.20 Define, find, and use measures of circumference, arc length, and areas of circles and sectors. Use these to solve problems.	SE: 421, 441 TWE: T421, T441
IM2.2.21 Describe sets of points on spheres: chords, tangents, and great circles.	This objective falls outside the scope of Glencoe/McGraw-Hill Contemporary Math in Context, Course 2. (See Course 4, Unit 8)
Standard 3: Data Analysis and Statistics	
IM2.3.1 Describe the association between two variables by interpreting a scatterplot.	SE: 170–178, 179–185, 186–196, 200–204 TWE: T170–T178, T179–T185, T186–T196, T200–T204
IM2.3.2 Interpret correlation coefficients.	SE: 186–196, 200–210 TWE: T186–T196, T200–T210
IM2.3.3 Make predictions from the least squares regression line or its equation.	SE: 211–215, 216–219, 220–226 TWE: T211–T215, T216–T219, T220–T226
IM2.3.4 Understand that a correlation between two variables does not necessarily imply one directly causes the other.	SE: 197–199, 200–210 TWE: T197–T199, T200–T210

**GLENCOE/MCGRAW-HILL
CONTEMPORARY MATHEMATICS IN CONTEXT, COURSES 2A AND 2B**

ALIGNMENT TO

**INDIANA
ACADEMIC MATH STANDARDS FOR INTEGRATED MATHEMATICS II**

OBJECTIVES	PAGE REFERENCES
IM2.3.5 Understand the effects of outliers on correlation coefficients, on the least squares regression line, and on the interpretations of correlation coefficients and regression lines in real-life contexts.	SE: 193–196 TWE: T193–T196
Standard 4: Probability	
IM2.4.1 Construct a probability distribution by simulation and use it to understand and analyze the probabilistic situation.	SE: 456–459, 460–461, 462–465, 466–470, 471–467, 477–484 TWE: T456–T459, T460–T461, T462–T465, T466–T470, T471–T467, T477–T484 (See Course 1 484-497)
IM2.4.2 Explore the geometric, or waiting-time, distribution.	SE: 462–465, 466–470, 495–502, 503–509, 521–223 TWE: T462–T465, T466–T470, T495–T502, T503–T509, T521–T223
IM2.4.3 Understand fundamental concepts of probability (i.e., independent events, multiplication rule, expected value).	SE: 456–459, 460–461, 471–476, 477–484, 510–512, 513–515, 516–520, 521–523, 524–529 TWE: T456–T459, T460–T461, T471–T476, T477–T484, T510–T512, T513–T515, T516–T520, T521–T523, T524–T529
IM2.4.4 Understand and apply counting principles to compute combinations and permutations.	This objective falls outside the scope of Glencoe/McGraw-Hill Contemporary Math in Context, Course 2. (See Course 1, 509 and Course 4, 216-239)

**GLENCOE/MCGRAW-HILL
CONTEMPORARY MATHEMATICS IN CONTEXT, COURSES 2A AND 2B**

ALIGNMENT TO

**INDIANA
ACADEMIC MATH STANDARDS FOR INTEGRATED MATHEMATICS II**

OBJECTIVES	PAGE REFERENCES
IM2.4.5 Use the basic counting principle, combinations, and permutations to compute probabilities.	SE: 483, 485–488, 489–494, 495–502, 502–509 TWE: T483, T485–T488, T489–T494, T495–T502, T502–T509 (See Course 4, 240-257)
Standard 5: Discrete Mathematics	
IM2.5.1 Experience in mathematical modeling by building and using vertex-edge graph models to solve problems in a variety of real-world settings.	SE: 320–325, 326–327, 328–339, 340–344, 345–347, 348–351, 352–362, 363–366 TWE: T320–T325, T326–T327, T328–T339, T340–T344, T345–T347, T348–T351, T352–T362, T363–T366 (See Course 1, Unit 4)
IM2.5.2 Develop the skill of algorithmic problem solving: designing, using, and analyzing systematic procedures for problem solving.	SE: 320–325, 326–327, 328–339, 340–344, 345–347, 348–351, 352–362, 363–366 TWE: T320–T325, T326–T327, T328–T339, T340–T344, T345–T347, T348–T351, T352–T362, T363–T366
OBJECTIVES	PAGE REFERENCES
IM2.5.3 Optimize networks in different ways and in different contexts by finding minimal spanning trees, shortest paths, and Hamiltonian paths.	SE: 320–325, 326–327, 328–339, 340–344, 345–347, 348–351, 352–362, 363–366 TWE: T320–T325, T326–T327, T328–T339, T340–T344, T345–T347, T348–T351, T352–T362, T363–T366

**GLENCOE/MCGRAW-HILL
CONTEMPORARY MATHEMATICS IN CONTEXT, COURSES 2A AND 2B**

ALIGNMENT TO

**INDIANA
ACADEMIC MATH STANDARDS FOR INTEGRATED MATHEMATICS II**

IM2.5.4	Use matrices for organizing and displaying data in a variety of real-world settings.	SE: 1–5, 6–9, 10–13, 14–25 TWE: T1–T5, T6–T9, T10–T13, T14–T25
IM2.5.5	Develop mathematical modeling skills by building matrix models and then apply the models to solve problems.	SE: 1–5, 6–9, 10–13, 14–25, 26–30, 31–35, 36–40, 41–45, 46–58 TWE: T1–T5, T6–T9, T10–T13, T14–T25, T26–T30, T31–T35, T36–T40, T41–T45, T46–T58
IM2.5.6	Apply matrix operations to solve problems (i.e., row sums, scalar multiplication, addition, subtraction, and matrix multiplication).	SE: 1–5, 6–9, 10–13, 14–25, 26–30, 31–35, 36–40, 41–45, 46–58 TWE: T1–T5, T6–T9, T10–T13, T14–T25, T26–T30, T31–T35, T36–T40, T41–T45, T46–T58
IM2.5.7	Use matrices and inverse matrices to answer questions that involve systems of linear equations.	SE: 59–62, 63–65, 66–74 TWE: T59–T62, T63–T65, T66–T74
OBJECTIVES		PAGE REFERENCES
IM2.5.8	Build and use matrix representations to model polygons, transformations, and computer animations.	SE: 80–86, 87–90, 107, 116, , 120–123, 129, 139–141, 149–153, 154–156, 157–160, 163–164, 166–168 TWE: T80–T86, T87–T90, T107, T116, T120–T123, T129, T139–T141, T149–T153, T154–T156, T157–T160, T163–T164, T166–T168
Standard 6: Trigonometry		
IM2.6.1	Explore properties and applications of the sine, cosine, and tangent ratios for the lengths of sides of right triangles.	SE: 395–399, 400–405, 406–411 TWE: T395–T399, T400–T405, T406–T411
Standard 7: Mathematical Reasoning and Problem Solving		

**GLENCOE/MCGRAW-HILL
CONTEMPORARY MATHEMATICS IN CONTEXT, COURSES 2A AND 2B**

ALIGNMENT TO

**INDIANA
ACADEMIC MATH STANDARDS FOR INTEGRATED MATHEMATICS II**

IM2.7.1	Use the properties of the real number system and the order of operations to justify the steps of simplifying functions and solving equations.	SE: 272, 306 TWE: T272, T306 (See Course 1, 233-242, Course 3, 14-62 and 192-228)
IM2.7.2	Make conjectures about geometric ideas. Distinguish between information that supports a conjecture and proof of a conjecture.	This objective falls outside the scope of Glencoe/McGraw-Hill Contemporary Math in Context, Course 2. (See Course 3, 260-296)
IM2.7.3	Write and interpret statements of the form “if-then” and “if and only if.”	This objective falls outside the scope of Glencoe/McGraw-Hill Contemporary Math in Context, Course 2. (See Course 3, 336, 266-278)
IM2.7.4	State, use, and examine the validity of the converse, inverse, and contrapositive of “if-then” statements.	This objective falls outside the scope of Glencoe/McGraw-Hill Contemporary Math in Context, Course 2. (See Course 3, 260-278)
OBJECTIVES		PAGE REFERENCES
IM2.7.5	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.	This objective falls outside the scope of Glencoe/McGraw-Hill Contemporary Math in Context, Course 2. (See Course 3, 243-250, 260-324)
IM2.7.6	Perform basic constructions, describing and justifying the procedures used. Distinguish between constructing and drawing geometric figures.	This objective falls outside the scope of Glencoe/McGraw-Hill Contemporary Math in Context, Course 2. (Course 3, 319-321)

**GLENCOE/MCGRAW-HILL
CONTEMPORARY MATHEMATICS IN CONTEXT, COURSES 2A AND 2B**

ALIGNMENT TO

**INDIANA
ACADEMIC MATH STANDARDS FOR INTEGRATED MATHEMATICS II**

<p>IM2.7.7 Decide if a given algebraic statement is true always, sometimes, or never (statements involving rational or radical expressions, logarithms or exponential functions).</p>	<p>SE: 105, 293 TWE: T105, T293 (See Course 3, 46-62, 63-90 and Course 4, 164-167)</p>
<p>IM2.7.8 Understand that the logic of equation solving begins with the assumption that the variable is a number that satisfies the equation, and that the steps taken when solving equations create new equations that have, in most cases, the same solution as the original. Understand that similar logic applies to solving systems of equations simultaneously.</p>	<p>SE: 97–101, 104–107 TWE: T97–T10, T104–T107 (See Course 3, 1-24, 25-45, 63-90)</p>
OBJECTIVES	PAGE REFERENCES
<p>IM2.7.9 Use counterexamples to show that statements are false.</p>	<p>SE: 293 TWE: T293 (See Course 1, 263, 360, 371, 379 and Course 3, 259-296)</p>

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