

## Textbook Alignment to the Utah Core – Geometry

*This alignment has been completed using an “Independent Alignment Vendor” from the USOE approved list ([www.schools.utah.gov/curr/imc/indvendor.html](http://www.schools.utah.gov/curr/imc/indvendor.html).) Yes  No*

Name of Company and Individual Conducting Alignment:  
Jim Birath

A “Credential Sheet” has been completed on the above company/evaluator and is (Please check one of the following):

On record with the USOE.

The “Credential Sheet” is attached to this alignment.

Instructional Materials Evaluation Criteria (name and grade of the core document used to align): **Geometry Core Curriculum**

Title: Geometry © 2010 ISBN#: 9780078884849

Publisher: Glencoe/McGraw-Hill

Overall percentage of coverage in the <i>Student Edition (SE) and Teacher Edition (TE)</i> of the Utah State Core Curriculum: _____%				
Overall percentage of coverage in <i>ancillary materials</i> of the Utah Core Curriculum: _____%				
<b>STANDARD I: Students will use algebraic, spatial, and logical reasoning to solve geometry problems.</b>				
Percentage of coverage in the <i>student and teacher edition</i> for Standard I: _____%		Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard I: _____%		
OBJECTIVES & INDICATORS		Coverage in <i>Student Edition (SE) and Teacher Edition (TE)</i> (pg #'s, etc.)	Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)	Not covered in <i>TE, SE or ancillaries</i> ✓
<b>Objective 1.1: Use inductive and deductive reasoning to develop mathematical arguments.</b>				
<b>a.</b>	Write conditional statements, converses, and inverses, and determine the truth value of these statements.	<b>Student Edition:</b> 105-113, 433 #37 <b>Teacher Wraparound Edition:</b> DI 111, 112; TfNT 107		
<b>b.</b>	Formulate conjectures using inductive reasoning.	<b>Student Edition:</b> 89-96, 139 #28, 156 #31 <i>Geometry Lab</i> 114, 281, 631, 650-652 <i>Graphing Software Lab</i> 592, 640 <i>Graphing Technology Lab</i> 185, 292-293, 359, 464, 561 <b>Teacher Wraparound Edition:</b> DI 91, 92, 96; F 93		

OBJECTIVES & INDICATORS		Coverage in <i>Student Edition (SE) and Teacher Edition (TE)</i> (pg #'s, etc.)	Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)	Not covered in <i>TE, SE or ancillaries</i> ✓
c.	Prove a statement false by using a counterexample.	<b>Student Edition:</b> 89-96, 131 #48-49, 140 #38-#39, 147 #20, 156 #34, 260 #40-#41, 269 #30, 330 #50-#51, 340 #38, 416 #42, 472 #53, 501 #32, 699 #56-#58 <b>Teacher Wraparound Edition:</b> DI 92		
<b>Objective 1.2: Analyze characteristics and properties of angles.</b>				
a.	Use accepted geometric notation for lines, segments, rays, angles, similarity, and congruence.	<b>Student Edition:</b> 5-12, 14-21, 36-44, 46-54, 125-132, 142-148, 149-157, 171-176, 178-184, 205-212, 244-252, 253-261, 262-270, 273-280, 465-473, 474-483		
b.	Identify and determine relationships in adjacent, complementary, supplementary, or vertical angles and linear pairs.	<b>Student Edition:</b> 46-54, 149-157, 178-184, 205-212, 244-252, 262-270, 273-280, 283-291 <b>Teacher Wraparound Edition:</b> DI 48, 49, 179		
c.	Classify angle pairs formed by two lines and a transversal.	<b>Student Edition:</b> 171-176, 178-184, 205-212 <b>Teacher Wraparound Edition:</b> DI 173, 176, 179, 207; TfNT 206		

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d.	Prove relationships in angle pairs.	<b>Student Edition:</b> 46-54, 149-157, 178-184, 244, 262-270, 273-280, 283-291 <i>Geometry Software Lab</i> 177, 243		
e.	Prove lines parallel or perpendicular using slope or angle relationships.	<b>Student Edition:</b> 186-194, 196-203, 213-222, 301-307, 405 #30, 409-417, 423 #22 & #25, 426-434, 435-444 <i>Geometry Lab</i> 204 <b>Teacher Wraparound Edition:</b> DI 198, 203; TwT 198		
<b>Objective 1.3: Analyze characteristics and properties of triangles.</b>				
a.	Prove congruency and similarity of triangles using postulates and theorems.	<b>Student Edition:</b> 253-261, 262-270, 273-280, 288 #23-#24, 301-307, 465-473, 474-483 <i>Geometry Lab</i> 271, 281-282 <b>Teacher Wraparound Edition:</b> DI 263, 270, 275, 307, 482; F 264, 274, 475		
b.	Prove the Pythagorean Theorem in multiple ways, find missing sides of right triangles using the Pythagorean Theorem, and determine whether a triangle is a right triangle using the converse of the Pythagorean Theorem.	<b>Student Edition:</b> 538 #44, 541-549, 552-560 <i>Geometry Lab</i> 540 <b>Teacher Wraparound Edition:</b> DI 543, 544; F 543; TwT 545; WO! 542		

OBJECTIVES & INDICATORS		Coverage in <i>Student Edition (SE) and Teacher Edition (TE)</i> (pg #'s, etc.)	Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)	Not covered in <i>TE, SE or ancillaries</i> ✓
c.	Prove and apply theorems involving isosceles triangles.	<b>Student Edition:</b> 283-291, 301-307 <b>Teacher Wraparound Edition:</b> DI 286; TfNT 284; TwT 284		
d.	Apply triangle inequality theorems.	<b>Student Edition:</b> 342-349, 360-366, 367-376 <i>Graphing Technology Lab</i> 359 <b>Teacher Wraparound Edition:</b> DI 344, 345, 361, 362, 368, 374		
e.	Identify medians, altitudes, and angle bisectors of a triangle, and the perpendicular bisectors of the sides of a triangle, and justify the concurrency theorems.	<b>Student Edition:</b> 322-331, 333-341 <i>Geometry Lab</i> 321, 332 <b>Teacher Wraparound Edition:</b> DI 331, 336; F 324, 336; TfNT 324; WO! 335		
<b>Objective 1.4: Analyze characteristics and properties of polygons and circles.</b>				
a.	Use examples and counterexamples to classify subsets of quadrilaterals.	<b>Student Edition:</b> 423 #35-#36, 424 #43, 427, 430 Ex4, 432 #19-#22, 435-444 <b>Teacher Wraparound Edition:</b> F 427		

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b.	Prove properties of quadrilaterals using triangle congruence relationships, postulates, and theorems.	<b>Student Edition:</b> 389-397, 399-407, 409-417, 419-425, 426-434, 435-444 <i>Graphing Technology Lab</i> 408 <b>Teacher Wraparound Edition:</b> DI 411; TwT 412, 421; WO! 410		
c.	Derive, justify, and use formulas for the number of diagonals, lines of symmetry, angle measures, perimeter, and area of regular polygons.	<b>Student Edition:</b> 56-64, 389-397, 653-659, 791-799 <i>Graphing Technology Lab</i> 398 <b>Teacher Wraparound Edition:</b> DI 793, 794; TfNT 792		
d.	Define radius, diameter, chord, secant, arc, sector, central angle, inscribed angle, and tangent of a circle, and solve problems using their properties.	<b>Student Edition:</b> 683-691, 692-700, 701-708, 709-716, 718-725, 727-735, 736-742 <b>Teacher Wraparound Edition:</b> DI 685, 694, 695, 716, 721; F 693, 712		
e.	Show the relationship between intercepted arcs and inscribed or central angles, and find their measures.	<b>Student Edition:</b> 692-700, 709-716 <b>Teacher Wraparound Edition:</b> DI 694, 695, 698, 716; F 712		

OBJECTIVES & INDICATORS		Coverage in <i>Student Edition (SE) and Teacher Edition (TE)</i> (pg #'s, etc.)	Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)	Not covered in <i>TE, SE or ancillaries</i> ✓
<b>Objective 5: Perform basic geometric constructions, describing and justifying the procedures used.</b>				
a.	Investigate geometric relationships using constructions.	<b>Student Edition:</b> 220 #37 <i>Construction</i> 17, 30, 39, 40, 205, 264, 265, 273, 488, 704, 720 <i>Geometry Lab</i> 55, 271, 321, 322, 726 <i>Geometry Software Lab</i> 177		
b.	Copy and bisect angles and segments.	<b>Student Edition:</b> <i>Construction</i> 17, 30, 39, 40, 205, 264, 265, 273, 488, 704, 720 <i>Geometry Lab</i> 321, 322		
c.	Construct perpendicular and parallel lines.	<b>Student Edition:</b> <i>Construction</i> 205, 704, 720 <i>Geometry Lab</i> 55, 321, 322		
d.	Justify procedures used to construct geometric figures.	<b>Student Edition:</b> <i>Geometry Lab</i> 271		
e.	Discover and investigate conjectures about geometric properties using constructions.	<b>Student Edition:</b> <i>Geometry Lab</i> 281, 321, 322, 790 <i>Graphing Software Lab</i> 65-66, 177 <i>Geometry Technology Lab</i> 359, 398, 408, 771		

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<b>Objective 6: Analyze characteristics and properties of three-dimensional figures.</b>				
a.	Identify and classify prisms, pyramids, cylinders and cones based on the shape of their base(s).	<b>Student Edition:</b> 67-74, 851 #23-#24 <b>Teacher Wraparound Edition:</b> TwT 68		
b.	Identify three-dimensional objects from different perspectives using nets, cross-sections, and two-dimensional views.	<b>Student Edition:</b> 823-828, 851 #23-#24 <i>Geometry Lab</i> 75, 821-822 <b>Teacher Wraparound Edition:</b> DI 824, 828		
c.	Describe the symmetries of three-dimensional figures.	<b>Student Edition:</b> 653-659		
d.	Describe relationships between the faces, edges, and vertices of polyhedra.	<b>Student Edition:</b> 73 #34		

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<b>STANDARD II: Students will use the language and operations of algebra to explore geometric relationships with coordinate geometry.</b>			
Percentage of coverage in the <i>student and teacher edition</i> for Standard II: _____ %		Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard II: _____ %	
<b>Objective 2.1: Describe the properties and attributes of lines and line segments using coordinate geometry.</b>			
a.	Verify the classifications of geometric figures using coordinate geometry to find lengths and slopes.	<b>Student Edition:</b> 186-194, 262-270, 301-307, 399-407, 409-417, 419-425, 426-434, 435-444 <b>Teacher Wraparound Edition:</b> DI 416, 417	
b.	Find the distance between two given points and find the coordinates of the midpoint.	<b>Student Edition:</b> 25-35, 262-270, 301-307, 399-407, 409-417, 419-425, 426-434, 435-444 <b>Teacher Wraparound Edition:</b> DI 27	
c.	Write an equation of a line perpendicular or a line parallel to a line through a given point.	<b>Student Edition:</b> 196-203	
<b>Objective 2.2: Describe spatial relationships using coordinate geometry.</b>			
a.	Graph a circle given the equation in the form, and write the equation when given the graph. $2x^2 + y^2 - 4x - 6y + 2 = 0$	<b>Student Edition:</b> 744-749 <i>Graphing Technology Lab 743</i>	

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b.	Determine whether points in a set are collinear.	<b>Student Edition:</b> 202 #56 A loose correlation is found on 365 #38-#41 This objective could also be integrated into the sections on page 186-194 & 342-349		
<b>STANDARD III: Students will extend concepts of proportion and similarity to trigonometric ratios.</b>				
Percentage of coverage in the <i>student and teacher edition</i> for Standard III: _____ %		Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard III: _____ %		
<b>Objective 3.1: Use triangle relationships to solve problems.</b>				
a.	Solve problems using the properties of special right triangles, e.g., 30°, 60°, 90° or 45°, 45°, 90°.	<b>Student Edition:</b> 552-560, 763-770, 791-799 <b>Teacher Wraparound Edition:</b> DI 553, 560; TfNT 555		
b.	Identify the trigonometric relationships of sine, cosine, and tangent with the appropriate ratio of sides of a right triangle.	<b>Student Edition:</b> 562-571, 574-581 <i>Graphing Technology Lab</i> 561, 572 <b>Teacher Wraparound Edition:</b> DI 560, 564, 566, 575, 576; F 564		
c.	Express trigonometric relationships using exact values and approximations.	<b>Student Edition:</b> 562-571, 574-581 <i>Graphing Technology Lab</i> 561, 572 <b>Teacher Wraparound Edition:</b> DI 560, 564, 566, 575, 576; F 564		

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<b>Objective 3.2: Use the trigonometric ratios of sine, cosine, and tangent to represent and solve for missing parts of triangles.</b>				
a.	Find the angle measure in degrees when given the trigonometric ratio.	<b>Student Edition:</b> 562-571, 574-581 <i>Graphing Technology Lab</i> 561, 572 <b>Teacher Wraparound Edition:</b> DI 560, 564, 566, 575, 576; F 564		
b.	Find the trigonometric ratio given the angle measure in degrees, using a calculator.	<b>Student Edition:</b> 562-571, 574-581, 763-770, 791-799 <i>Graphing Technology Lab</i> 561, 572 <b>Teacher Wraparound Edition:</b> DI 560, 564, 566, 575, 576; F 564		
c.	Find unknown measures of right triangles using sine, cosine, and tangent functions and inverse trigonometric functions.	<b>Student Edition:</b> 562-571, 574-581, 582-591, 763-770, 791-799 <i>Graphing Technology Lab</i> 561, 572 <b>Teacher Wraparound Edition:</b> DI 560, 564, 566, 575, 576; F 564, 584		

<b>STANDARD IV: Students will use algebraic, spatial, and logical reasoning to solve measurement problems.</b>			
<b>Percentage of coverage in the <i>student and teacher edition</i> for Standard IV: _____ %</b>		<b>Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard IV: _____ %</b>	
<b>OBJECTIVES &amp; INDICATORS</b>		<b>Coverage in <i>Student Edition (SE) and Teacher Edition (TE)</i> (pg #'s, etc.)</b>	<b>Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.)</b>
<b>Objective 4.1: Find measurements of plane and solid figures.</b>			<b>Not covered in TE, SE or ancillaries</b> ✓
<b>a.</b>	Find linear and angle measures in real-world situations using appropriate tools or technology.	<b>Student Edition:</b> 14-21, 36-44, 466 Ex2, 478 Ex5, 481 #32, 487 Ex4, 497 Ex2, 512-517, 541-549, 564 Ex3, 574-581, 596 Ex4 <i>Extension Lesson 22-24</i> <b>Teacher Wraparound Edition:</b> DI 576; TwT 514	
<b>b.</b>	Develop surface area and volume formulas for polyhedra, cones, and cylinders.	<b>Student Edition:</b> 67-74, 830-837, 868-846, 864-871 This objective could also be integrated into the lessons on 847-854 & 857-863	
<b>c.</b>	Determine perimeter, area, surface area, lateral area, and volume for prisms, cylinders, pyramids, cones, and spheres when given the formulas.	<b>Student Edition:</b> 67-74, 830-837, 838-846, 847-854, 857-863, 864-871, 880-886 <i>Graphing Technology Lab 855</i> <b>Teacher Wraparound Edition:</b> DI 837, 839, 852, 854, 859; WO! 831	

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d.	Calculate or estimate the area of an irregular region.	<b>Student Edition:</b> <i>Geometry Lab</i> 800-801		
e.	Find the length of an arc and the area of a sector when given the angle measure and radius.	<b>Student Edition:</b> 692-700, 782-788 <b>Teacher Wraparound Edition:</b> DI 695; F 693		
<b>Objective 4.2: Solve real-world problems using visualization and spatial reasoning.</b>				
a.	Solve problems using the Pythagorean Theorem and its converse.	<b>Student Edition:</b> 541-549, 763-770, 773-780, 791-799, 830-837, 838-846, 847-854, 857-863 <b>Teacher Wraparound Edition:</b> DI 544		
b.	Solve problems using the distance formula.	<b>Student Edition:</b> 25-35, 235-242, 262-270, 301-307, 342-349, 360-366, 405 #30, 409-417, 419-425, 426-434, 435-444, 471 #38-#39, 505-511, 541-549 <i>Geometry Lab</i> 550-551 <b>Teacher Wraparound Edition:</b> DI 27, 31		

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c.	Solve problems involving trigonometric ratios.	<b>Student Edition:</b> 562-571, 574-581, 582-591, 593-600, 768 #22, 791-799 <i>Geometry Software Lab</i> 592 <i>Graphing Technology</i> 572 <i>Graphing Technology Lab</i> 561 <b>Teacher Wraparound Edition:</b> DI 566, 575, 576, 585; F 564, 584		
d.	Solve problems involving geometric probability.	<b>Student Edition:</b> 915-921, 923-930 <b>Teacher Wraparound Edition:</b> DI 916, 920; F 917; WO! 916		