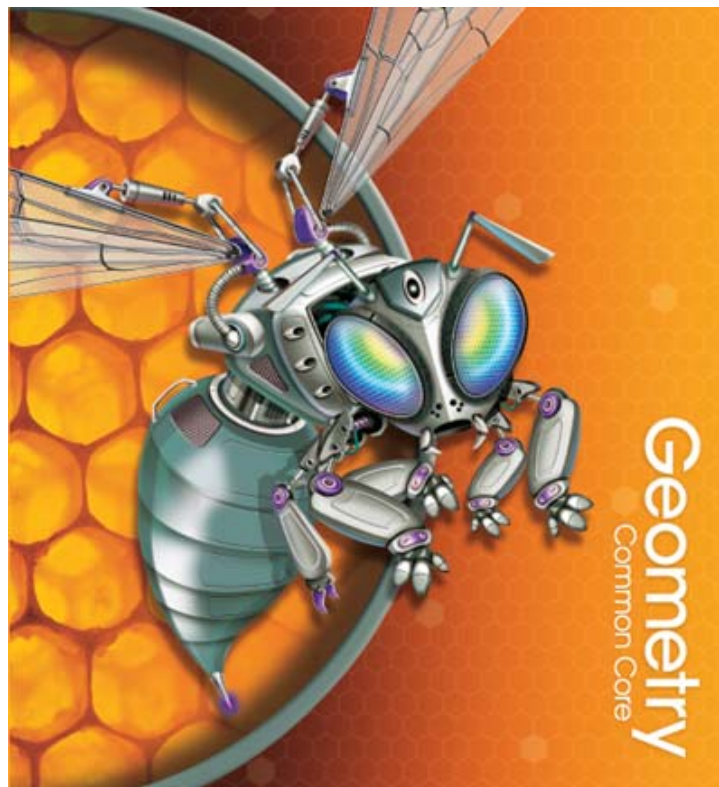


**A Correlation of
Pearson Mathematics
Geometry
Common Core, ©2015**



**To the
Missouri Learning Standards for
Mathematics Geometry**

A Correlation of Pearson High School Mathematics Geometry Common Core ©2015 To the Missouri Learning Standards for Mathematics – Geometry

Introduction

This document demonstrates how ***Pearson Geometry, Common Core Edition ©2015*** meets the standards of the Missouri Learning Standards for Mathematics, Geometry. Correlation references are to the pages of the Student and Teacher’s Editions.

Pearson Geometry, Common Core Edition ©2015 balances conceptual understanding, procedural fluency, and the application of mathematics to solve problems and formulate models.

- Each lesson begins with Interactive Learning, the Solve It!, which immediately engages students in their daily learning according to the Standards for Mathematical Practice.
- The second step of the lesson, Guided Instruction, uses visual learning principles and a Thinking/Reasoning strand (seen in the Know/Need/Plan and Think/Plan/Write boxes) to introduce the Essential Understanding of the lesson by teaching THROUGH and FOR problem-solving.
- In the third step of the lesson, the Lesson Check, Do you know HOW? exercises measure students’ procedural fluency, while Do you UNDERSTAND? problems measure students’ conceptual understanding.
- In the fourth step of the lesson, Practice problems are designed to develop students’ fluency in the Content Standards and proficiency with the Mathematical Practices. Real-world STEM problems as well as problems designed to elicit the use of one or more of the Standards for Mathematical Practice are clearly labeled in the Practice step of the lesson.
- The final phase of the lesson, Assess and Remediate, features a Lesson Quiz to measure students’ understanding of lesson concepts. By utilizing the balanced and proven-effective approach of Pearson’s 5-step lesson design, you can teach with confidence.

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To the Missouri Learning Standards for Mathematics – Geometry**

Missouri Learning Standards for Mathematics Grade-Level Expectations Geometry	Pearson High School Mathematics Geometry
Congruence	
A Experiment with transformations in the plane.	
1 Define angle, circle, perpendicular line, parallel line, line segment and ray based on the undefined notions of point, line, distance along a line and distance around a circular arc.	SE/TE: 4-7, 11-16, 20-23, 27-31, 34-37, 43-46, 140-143, 649-654 TE: 10A-10B, 19A-19B, 26A-26B, 33A-33B, 40A-40B, 48A-48B, 146A-146B, 657A-657B
2 Represent transformations in the plane, and describe them as functions that take points in the plane as inputs and give other points as outputs.	SE/TE: CB 544, 545-549, 554-557, 561-564, 570-573, 587-590 TE: 552A-552B, 560A-560B, 567A-567B, 576A-576B, 593A-593B
3 Describe the rotational symmetry and lines of symmetry of two-dimensional figures.	SE/TE: CB 568-569
4 Develop definitions of rotations, reflections and translations in terms of angles, circles, perpendicular lines, parallel lines and line segments.	SE/TE: 545-549, 554-557, 561-564 TE: 552A-552B, 560A-560B, 567A-567B
5 Demonstrate the ability to rotate, reflect or translate a figure, and determine a possible sequence of transformations between two congruent figures.	SE/TE: 545-549, CB 553, 554-557, 561-564, 570-572 TE: 552A-552B, 560A-560B, 567A-567B, 576A-576B
B Understand congruence in terms of rigid motions.	
1 Develop the definition of congruence in terms of rigid motions.	SE/TE: 545-549, 554-557, 561-564, 570-573, 578-582 TE: 552A-552B, 560A-560B, 567A-567B, 576A-576B, 585A-585B
2 Develop the criteria for triangle congruence from the definition of congruence in terms of rigid motions.	SE/TE: 578-582 TE: 585A-585B
C Prove geometric theorems.	
1 Prove theorems about lines and angles.	SE/TE: 120-124, 140-143, 148-152, 156-160, 292-296 TE: 127A-127B, 146A-146B, 155A-155B, 163A-163B, 294A-294B

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Missouri Learning Standards for Mathematics Grade-Level Expectations Geometry	Pearson High School Mathematics Geometry
2 Prove theorems about triangles.	SE/TE: 171-175, 250-253, 285-288, 309-312, 317-319, 324-328, 332-336 TE: 178A-178B, 256A-256B, 291A-291B, 315A-315B, 322A-322B, 331A-331B, 339A-339B
3 Prove theorems about polygons.	SE/TE: 359-363, 367-372, 375-379, 383-386 TE: 366A-366B, 374A-374B, 382A-382B, 388A-388B
D Make geometric constructions.	
1 Construct geometric figures using various tools and methods.	SE/TE: CB 42, 43-46, CB 49, CB 147, 182-186, 244-246, CB 249, 250-253, 285-288, CB 413, CB 470, 629-631 TE: 48A-48B, 188A-188B, 248A-248B, 256A-256B, 291A-291B, 634A-634B
Similarity, Right Triangles, and Trigonometry	
A Understand similarity in terms of similarity transformations.	
1 Construct and analyze scale changes of geometric figures.	SE/TE: CB 586, 587-590 TE: 593A-593B
2 Use the definition of similarity to decide if figures are similar and to solve problems involving similar figures.	SE/TE: 594-597 TE: 600A-600B
3 Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.	SE/TE: 594-597 TE: 600A-600B
B Prove theorems involving similarity.	
1 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	SE/TE: 218-221, CB 225, 226-230, 234-238, CB 242, 244-246, 250-253, 258-261, 265-268, 285-288, 292-296, 309-312, CB 352, 353-356, 359-363, 367-372, 375-379, 383-386, 389-393, 432-434, 440-444, CB 448-449, 450-455, 460-464 TE: 224A-224B, 233A-233B, 241A-241B, 248A-248B, 256A-256B, 264A-264B, 271A-271B, 291A-291B, 299A-299B, 315A-315B, 358A-358B, 366A-366B, 374A-374B, 382A-382B, 388A-388B, 397A-397B, 438A-438B, 447A-447B, 458A-458B, 467A-467B

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C Define trigonometric ratios, and solve problems involving right triangles.	
1 Understand that side ratios in right triangles define the trigonometric ratios for acute angles.	SE/TE: CB 506, 507-510 TE: 513A-513B
2 Explain and use the relationship between the sine and cosine of complementary angles.	SE/TE: 507-510, CB 514 TE: 513A-513B
3 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles.	SE/TE: 491-495, 499-503, 507-510, 516-518 TE: 498A-498B, 505A-505B, 513A-513B, 521A-521B
4 Derive the formula $A = 1/2 ab \sin(C)$ for the area of a triangle.	SE/TE: 643-646 TE: 648A-648B
Circles	
A Understand and apply theorems about circles.	
1 Prove that all circles are similar using similarity transformations.	SE/TE: 649-654 TE: 657A-657B
2 Identify and describe relationships among inscribed angles, radii and chords of circles.	SE/TE: 649-654, 762-766, CB 770, 771-776, 780-784, CB 789, 790-794 TE: 657A-657B, 769A-769B, 779A-779B, 787A-787B, 797A-797B
3 Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.	SE/TE: CB 300, 301-304 TE: 307A-307B
B Find arc lengths and areas of sectors of circles.	
1 Derive the formula for the length of an arc of a circle.	SE/TE: 649-654 TE: 657A-657B

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Missouri Learning Standards for Mathematics Grade-Level Expectations Geometry	Pearson High School Mathematics Geometry
2 Derive the formula for the area of a sector of a circle.	SE/TE: 660-663 TE: 666A-666B
Exploring Geometric Properties with Equations	
A Translate between the geometric description and the equation for a conic section.	
1 Derive the equation of a circle.	SE/TE: 798-800 TE: 803A-803B
2 Derive the equation of a parabola given a focus and directrix.	SE/TE: CB 804-805
B Use coordinates to prove geometric theorems algebraically.	
1 Use coordinates to prove geometric theorems algebraically.	SE/TE: 414-416 TE: 418A-418B
2 Prove the slope criteria for parallel and perpendicular lines and use them to solve problems.	SE/TE: 189-193, 197-201, 450-455, 460-464 TE: 196A-196B, 204A-204B, 458A-458B, 467A-467B
3 Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	SE/TE: 20-23, 50-53 TE: 26A-26B, 56A-56B
4 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles.	SE/TE: 50-53, 400-403, 616-619, CB 667 TE: 56A-56B, 405A-405B, 622A-622B
Geometric Measurement and Dimension	
A Explain volume formulas and use them to solve problems.	
1 Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid and cone.	SE/TE: CB 659, 717-721, CB 725 TE: 724A-724B
2 Use volume formulas for cylinders, pyramids, cones, spheres and composite figures to solve problems.	SE/TE: 635-638, 717-721, 726-729, 733-736 TE: 641A-641B, 724A-724B, 732A-732B, 740A-740B

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Missouri Learning Standards for Mathematics Grade-Level Expectations Geometry	Pearson High School Mathematics Geometry
B Visualize relationships between two-dimensional and three-dimensional objects.	
1 Identify the shapes of two-dimensional cross-sections of three-dimensional objects.	SE/TE: 688-691 TE: 695A-695B
2 Identify three-dimensional objects generated by transformations of two-dimensional objects.	SE/TE: 806-808 TE: 811A-811B
Modeling with Geometry	
A Apply geometric concepts in modeling situations.	
1 Use geometric shapes, their measures and their properties to describe objects.	SE/TE: 507-510, 616-619, 623-625, 629-631, 699-703, 708-712, 717-721, 726-729, 733-736, 742-745 TE: 513A-513B, 622A-622B, 628A-628B, 634A-634B, 707A-707B, 715A-715B, 724A-724B, 732A-732B, 740A-740B, 749A-749B
2 Apply concepts of density based on area and volume in modeling situations.	SE/TE: CB 741, 742-745 TE: 749A-749B
3 Apply geometric methods to solve design mathematical modeling problems.	SE/TE: 164-167 TE: 169A-169B
Conditional Probability and Rules of Probability	
A Understand independence and conditional probability and use them to interpret data.	
1 Describe events as subsets of a sample space using characteristics of the outcomes, or as unions, intersections or complements of other events.	SE/TE: 824-827 TE: 829A-829B
2 Understand the definition of independent events and use it to solve problems.	SE/TE: 856-859 TE: 861A-861B
3 Calculate conditional probabilities of events.	SE/TE: 856-859 TE: 861A-861B

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4 Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities.	SE/TE: 824-827, 830-832, 850-852 TE: 829A-829B, 835A-835B, 855A-855B
5 Recognize and explain the concepts of conditional probability and independence in a context.	SE/TE: 830-832, 856-859 TE: 835A-835B, 861A-861B
6 Apply and interpret the Addition Rule for calculating probabilities.	SE/TE: 844-847 TE: 849A-849B
7 Apply and Interpret the general Multiplication Rule in a uniform probability model.	SE/TE: 844-847 TE: 849A-849B
8 Use permutations and combinations to solve problems.	SE/TE: 836-840 TE: 842A-842B