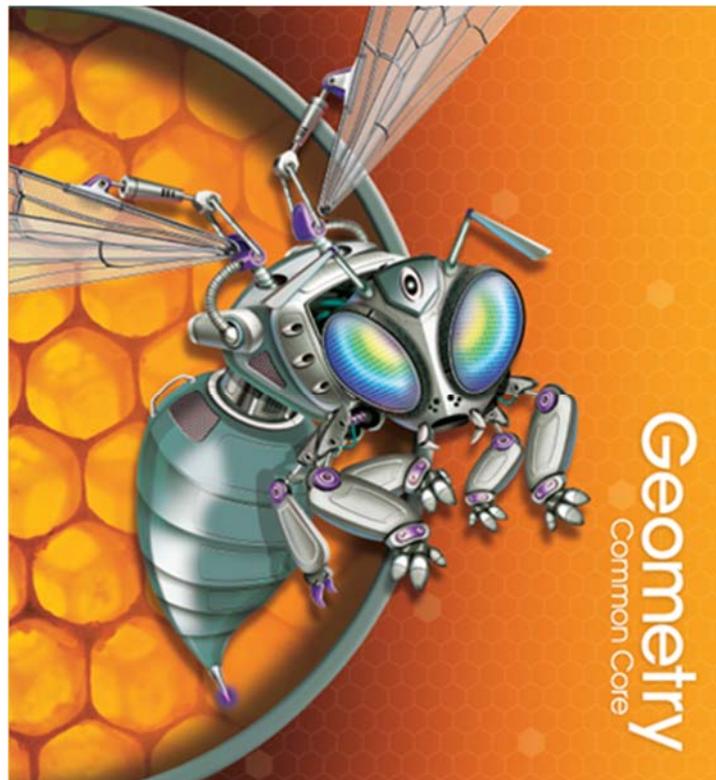


A Correlation of
Pearson Mathematics
Geometry
Common Core, ©2015



To the
Georgia
Performance Standards
in Mathematics (Draft 2015)
High School, Geometry

**A Correlation of Pearson Geometry, Common Core, ©2015
To the Georgia Performance Standards in Mathematics (Draft 2015)**

Introduction

This document demonstrates how *Pearson Geometry, Common Core Edition ©2015* meets the standards of the Georgia Performance Standards in Mathematics (Draft 2015), Algebra 1. Correlation references are to the lessons of the Student and Teacher's Editions, Concept Bytes, and Learning Resources within the 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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Mathematics Standards for Mathematical Practice	
<p>1 Make sense of problems and persevere in solving them. High school students start to examine problems by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. By high school, students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. They check their answers to problems using different methods and continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.</p>	<p>SE/TE: 220-224, CB 225, 226-233, 234-241, 244-248, 250-256, 258-264, 265-271, 450-458, 460-467, 471-478, CB 544, 545-552, CB 553, 554-560, 561-567, 717-720, 721-724, 726-729, 730-732, 733-736, 737-740, CB 741, 742-745, 746-749, 856-860</p> <p>TE: 224A-224B, 233A-233B, 241A-241B, 248A-248B, 256A-256B, 264A-264B, 271A-271B, 458A-458B, 467A-467B, 478A-478B, 552A-552B, 560A-560B, 567A-567B, 724A-724B, 732A-732B, 740A-740B, 749A-749B, 860A-860B</p>
<p>2 Reason abstractly and quantitatively. High school students seek to make sense of quantities and their relationships in problem situations. They abstract a given situation and represent it symbolically, manipulate the representing symbols, and pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Students use quantitative reasoning to create coherent representations of the problem at hand; consider the units involved; attend to the meaning of quantities, not just how to compute them; and know and flexibly use different properties of operations and objects.</p>	<p>SE/TE: 120-127, 148-155, 156-163, 164-169, CB 70, 171-178, CB 179, 218-224, 250-256, 285-290, 292-299, 309-315, 359-366, 367-374, 375-382, 383-388, 408-412, 414-418, 419, 424, 659, 660-662, 667, 717-718, 723-724, 726, 762-764, 780-783</p> <p>TE: 127A-127B, 155A-155B, 163A-163B, 169A-169B, 178A-178B, 256A-256B, 290A-290B, 315A-315B, 366A-366B, 374A-374B, 382A-382B, 388A-388B, 412A-412B, 418A-418B</p>

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<p>3 Construct viable arguments and critique the reasoning of others. High school students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. High school students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. High school students learn to determine domains to which an argument applies, listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.</p>	<p>SE/TE: 82-88, 92, 100, 121, 172-173, 183, 192, 198, 219, 253, 317-319, 326-327, 341, 362, 378, 385, 433, 474, 502, 526, 569, 596, 689, 720</p> <p>TE: 88A-88B</p>
<p>4 Model with mathematics. High school students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. High school students making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.</p>	<p>SE/TE: 58, 507-513, 616-622, 623-628, 629-634, 699-707, 708-715, 717-720, 721-724, 726-729, 730-732, 733-736, 737-740, CB 741, 742-745, 746-749, 824-829</p> <p>TE: 724A-724B, 732A-732B, 740A-740B, 749A-749B, 829A-829B</p>

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<p>5 Use appropriate tools strategically. High school students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. High school students should be sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. They are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.</p>	<p>SE/TE: 28-29, 31, 33, CB 42, 43-48, CB 49, 182-188, 250-256, 301, 306, 629, 662, 664-666, 667, 770, 772, 781-782, 784-786</p> <p>TE: 48A-48B, 188A-188B, 256A-256B, 634B</p>
<p>6 Attend to precision. High school students try to communicate precisely to others by using clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. By the time they reach high school they have learned to examine claims and make explicit use of definitions.</p>	<p>SE/TE: 58, 182-188, 250-256, CB 490, 491-498, 499-505, 507-513, 616-622, 623-628, 629-634, 649-653, 654-656, 661-662, 663-666, 679, 699-707, 708-715, 717-724, 726-732, CB 741, 742-745, 746-749</p> <p>TE: 48A-48B, 188A-188B, 256A-256B, 498A-498B, 505A-505B, 513A-513B, 521A-521B, 724A-724B, 732A-732B, 740A-740B, 749A-749B</p>

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<p>7 Look for and make use of structure. By high school, students look closely to discern a pattern or structure. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y. High school students use these patterns to create equivalent expressions, factor and solve equations, and compose functions, and transform figures.</p>	<p>SE/TE: 4-10, 11-19, 20-26, 27-33, 34-40, 50-56, CB 57-58, CB 586, 587-593, 770, 771-775, 776-778, 781-783, 784-787, 789, 790-794, 795-797, 798-803</p> <p>TE: 10A-10B, 19A-19B, 26A-26B, 33A-33B, 40A-40B, 56A-56B, 593A-593B, 775A-775B, 797A, 803A-803B</p>
<p>8 Look for and express regularity in repeated reasoning. High school students notice if calculations are repeated, and look both for general methods and for shortcuts. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, derive formulas or make generalizations, high school students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.</p>	<p>SE/TE: 82-88, 89-95, CB 96, 98-104, 106-112, 113-119, 414-418, 659, 660-662, 667, 717-718, 723-724, 726, 735</p> <p>TE: 88A-88B, 95A-95B, 104A-104B, 112A-112B, 119A-119B, 418A-418B</p>

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Geometry	
Congruence G.CO	
Experiment with transformations in the plane	
MCC9-12.G.CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	SE/TE: 545-552, 554-560, CB 586, 587-593, 602, 604 TE: 552B, 560B, 593B
MCC9-12.G.CO.2 Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).	SE/TE: CB 544, 545-552, 554-560, 561-563, 570-576 TE: 543A-543B, 552A-552B, 560A-560B, 576A-576B
MCC9-12.G.CO.3 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	SE/TE: CB 568-569
MCC9-12.G.CO.4 Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.	SE/TE: 545-552, 554-560, 561-563 TE: 552A-552B, 560A-560B
MCC9-12.G.CO.5 Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.	SE/TE: CB 544, 545-552, CB 553, 554-560, 561-567 TE: 552A-552B, 560A-560B, 567A-567B
Understand congruence in terms of rigid motions	
MCC9-12.G.CO.6 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	SE/TE: 545-547, 550, 554-561, 568, 570, 578-582, 587 TE: 552A-552B, 560A, 567A, 585A-585B

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MCC9-12.G.CO.7 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.	SE/TE: 578-585 TE: 585A-585B
MCC9-12.G.CO.8 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions. (Extend to include HL and AAS.)	SE/TE: 578-585 TE: 585A-585B
Prove geometric theorems	
MCC9-12.G.CO.9 Prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.	SE/TE: 120-127, 148-155, 156-163, 164-169, CB 70, 171-178, CB 179, 218-224, 292-299, 762-764, 780-783 TE: 127A-127B, 155A-155B, 163A-163B, 169A-169B, 178A-178B
MCC9-12.G.CO.10 Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180 degrees; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.	SE/TE: 171-178, 250-256, 285-290, CB 308, 309-315 TE: 178A-178B, 256A-256B, 290A-290B, 315A-315B
MCC9-12.G.CO.11 Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.	SE/TE: 359-366, 367-374, 375-382, 383-388 TE: 366A-366B, 374A-374B, 382A-382B, 388A-388B

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Make geometric constructions	
MCC9-12.G.CO.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.	SE/TE: CB 42, 43-48, CB 49, 182-188 TE: 48A-48B, 188A-188B
MCC9-12.G.CO.13 Construct an equilateral triangle, a square, and a regular hexagon, each inscribed in a circle.	SE/TE: 182-188, 250-256, 629 TE: 188A-188B, 256A-256B, 634B
Similarity, Right Triangles, and Trigonometry G.SRT	
Understand similarity in terms of similarity transformations	
MCC9-12.G.SRT.1 Verify experimentally the properties of dilations given by a center and a scale factor.	SE/TE: CB 586, 587-593 TE: 593A-593B
MCC9-12.G.SRT.1 a. The dilation of a line not passing through the center of the dilation results in a parallel line and leaves a line passing through the center unchanged.	SE/TE: CB 586, 587-593 TE: 593A-593B
MCC9-12.G.SRT.1 b. The dilation of a line segment is longer or shorter according to the ratio given by the scale factor.	SE/TE: CB 586, 587-593 TE: 593A-593B
MCC9-12.G.SRT.2 Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain, using similarity transformations, the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.	SE/TE: 441-447, 450-458, 460-461, CB 470, 471-472, 575-581, 582-583, 636-640 TE: 447A-447B, 458A-458B, 581A-581B
MCC9-12.G.SRT.3 Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.	SE/TE: 450-458, 461 TE: 458A-458B

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Prove theorems involving similarity	
MCC9-12.G.SRT.4 Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, (and its converse); the Pythagorean Theorem using triangle similarity.	SE/TE: 285-291, 450-458, 460-467, 471-478, CB 490, 491-498 TE: 291A-291B, 458A-458B, 467A-467B, 478A-478B, 498A-498B
MCC9-12.G.SRT.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	SE/TE: 220-224, CB 225, 226-233, 234-241, 244-248, 250-256, 258-264, 265-271, 450-458, 460-467, 471-478 TE: 224A-224B, 233A-233B, 241A-241B, 248A-248B, 256A-256B, 264A-264B, 271A-271B, 458A-458B, 467A-467B, 478A-478B
Define trigonometric ratios and solve problems involving right triangles	
MCC9-12.G.SRT.6 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.	SE/TE: CB 506, 506-513 TE: 513A-513B
MCC9-12.G.SRT.7 Explain and use the relationship between the sine and cosine of complementary angles.	SE/TE: 506-513 CB 514 TE: 513A-513B
MCC9-12.G.SRT.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.	SE/TE: CB 490, 491-498, 499-505, 506-513, 516-521 TE: 498A-498B, 505A-505B, 513A-513B, 521A-521B
Circles G.C	
Understand and apply theorems about circles	
MCC9-12.G.C.1 Understand that all circles are similar.	SE/TE: 649, 651-653, 654-656
MCC9-12.G.C.2 Identify and describe relationships among inscribed angles, radii, chords, tangents, and secants. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.	SE/TE: 770, 771-775, 776-778, 781-783, 784-787, 789, 790-794, 795-797 TE: 775A-775B, 797A

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MCC9-12.G.C.3 Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.	SE/TE: 301, 306, 662, 664-666, 667, 770, 772, 781-782, 784-786
MCC9-12.G.C.4 Construct a tangent line from a point outside a given circle to the circle.	SE/TE: 762-766, 767-769, 783, 786, 795-796 TE: 769A
Find arc lengths and areas of sectors of circles	
MCC9-12.G.C.5 Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.	SE/TE: 649-653, 654-656, 661-662, 663-666, 679 TE: 657A-657B
Expressing Geometric Properties with Equations G.GPE	
Translate between the geometric description and the equation for a conic section	
MCC9-12.G.GPE.1 Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.	SE/TE: 797, 798-803 TE: 803A-803B
MCC9-12.G.GPE.2 Derive the equation of a parabola given a focus and directrix.	SE/TE: 804-805
Use coordinates to prove simple geometric theorems algebraically	
MCC9-12.G.GPE.4 Use coordinates to prove simple geometric theorems algebraically. <i>For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, $\sqrt{3}$) lies on the circle centered at the origin and containing the point (0,2). (Focus on quadrilaterals, circles, right triangles, and parabolas.)</i>	SE/TE: 408-412, 414-418, 419, 424 TE: 412A-412B, 418A-418B
MCC9-12.G.GPE.5 Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	SE/TE: 197-204, 286, 288-289, 401-405, 409-411 TE: 204A-204B, 405A-405B

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MCC9-12.G.GPE.6 Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	SE/TE: 20-26, 50-56, CB 57 TE: 26A-26B, 56A-56B
MCC9-12.G.GPE.7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.	SE/TE: 61, 64, 66, 620, 627, 634
Geometric Measurement and Dimension G.GMD	
Explain volume formulas and use them to solve problems	
MCC9-12.G.GMD.1 Give informal arguments for geometric formulas.	SE/TE: 659, 660, 667
MCC9-12.G.GMD.1 a. Give informal arguments for the formulas of the circumference of a circle and area of a circle using dissection arguments and informal limit arguments.	SE/TE: 659, 660-662, 667
MCC9-12.G.GMD.1 b. Give informal arguments for the formula of the volume of a cylinder, pyramid, and cone using Cavalieri's principle.	SE/TE: 717-718, 723-724, 726
MCC9-12.G.GMD.2 Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.	SE/TE: 735
MCC9-12.G.GMD.3 Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.	SE/TE: 717-720, 721-724, 726-729, 730-732, 733-736, 737-740, CB 741, 742-745, 746-749 TE: 724A-724B, 732A-732B, 740A-740B, 749A-749B
Visualize relationships between two-dimensional and three-dimensional objects.	
MCC9-12.G.GMD.4 Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.	SE/TE: 688-695, 806-811 TE: 695A-695B, 811A-811B
Modeling with Geometry G.MG	
Apply geometric concepts in modeling situations	
MCC9-12.G.MG.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).	SE/TE: 58, 507-513, 616-622, 623-628, 629-634, 699-707, 708-715, 717-724, 726-732, 742-759

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MCC9-12.G.MG.2 Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).	SE/TE: 742-759, CB 741 TE: 759A-759B
MCC9-12.G.MG.3 Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).	SE/TE: 164-165, 167-168 TE: 169B
Statistics and Probability	
Conditional Probability and the Rules of Probability S.CP	
Understand independence and conditional probability and use them to interpret data	
MCC9-12.S.CP.1 Describe categories of events as subsets of a sample space using unions, intersections, or complements of other events (<i>or, and, not</i>).	SE/TE: 668-673, 824-829 TE: 829A-829B
MCC9-12.S.CP.2 Understand that if two events A and B are independent, the probability of A and B occurring together is the product of their probabilities, and that if the probability of two events A and B occurring together is the product of their probabilities, the two events are independent.	SE/TE: 856-860 TE: 860A-860B
MCC9-12.S.CP.3 Understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$. Interpret independence of A and B in terms of conditional probability; that is the conditional probability of A given B is the same as the probability of A and the conditional probability of B given A is the same as the probability of B.	SE/TE: 856-860 TE: 860A-860B

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MCC9-12.S.CP.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. <i>For example, use collected data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.</i>	SE/TE: 824-828, 830-834, 850-854 TE: 828A-828B, 834A-834B, 854A-854B
MCC9-12.S.CP.5 Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. <i>For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.</i>	SE/TE: 830-834, 856-860 TE: 834A-834B, 860A-860B
Use the rules of probability to compute probabilities of compound events in a uniform probability model	
MCC9-12.S.CP.6 Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in context.	SE/TE: 856-860 TE: 860A-860B
MCC9-12.S.CP.7 Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answers in context.	SE/TE: 844-848 TE: 848A-848B