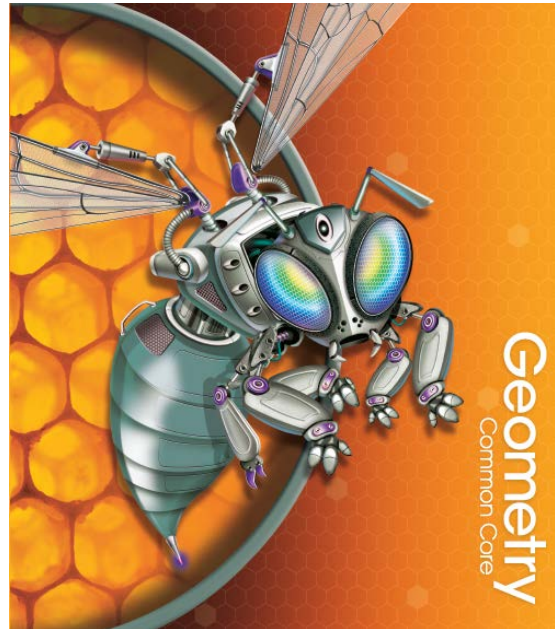


A Correlation of
**Pearson High School Mathematics
Geometry Common Core**
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to the
**California Common Core State Standards
for Mathematics Standards Map
Geometry**

California Common Core State Standards for Mathematics Standards Map

Geometry

★ *Indicates a modeling standard linking mathematics to everyday life, work, and decision-making.*
 (+) *Indicates additional mathematics to prepare students for advanced courses.*

Standard No.	Standard Language ¹	Publisher Citations	Meets Standard		For Reviewer Use Only
			Y	N	Reviewer Notes
	GEOMETRY				
Domain	CONGRUENCE				
Cluster	Experiment with transformations in the plane.				
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: 4-10, 11-19, 20-26, 27-33, 34-40, 43-48, 140-146, 649-657 TE: 10A-10B, 19A-19B, 26A-26B, 33A-33B, 40A-40B, 48A-48B, 146A-146B, CB 170, CB 179-180, 657A-657B			

¹ For some standards that appear in multiple courses (e.g., Geometry and Mathematics I), some examples included in the language of the standard that did not apply to this standards map were removed.

Standard No.	Standard Language ¹	Publisher Citations	Meets Standard		For Reviewer Use Only
			Y	N	Reviewer Notes
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, 561-567, 570-576, 587-593 TE: 552A-552B, 560A-560B, 567A-567B, 576A-576B, 593A-593B			
G-CO 3.	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	SE/TE: 554-560, 561-567, CB 568-569 TE: 560A-560B, 567A-567B			
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, 561-567 TE: 552A-552B, 560A-560B, 567A-567B			
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: 545-552, CB 553, 554-560, 561-567, 570-576 TE: 552A-552B, 560A-560B, 567A-567B, 576A-576B			

Standard No.	Standard Language ¹	Publisher Citations	Meets Standard		For Reviewer Use Only
			Y	N	Reviewer Notes
Cluster	Understand congruence in terms of rigid motions. [Build on rigid motions as a familiar starting point for development of concept of geometric proof.]				
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: 545-552, 554-560, 561-567, 570-576, 578-585 TE: 552A-552B, 560A-560B, 567A-567B, 576A-576B, 585A-585B			
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			
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.	SE/TE: 578-585 TE: 585A-585B			

Standard No.	Standard Language ¹	Publisher Citations	Meets Standard		For Reviewer Use Only
			Y	N	Reviewer Notes
Cluster	Prove geometric theorems. [Focus on validity of underlying reasoning while using variety of ways of writing proofs.]				
G-CO 9.	Prove theorems about lines and angles. <i>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.</i>	SE/TE: 120-127, 140-146, 148-155, 156-163, 292-299 TE: 127A-127B, 146A-146B, CB 147, 155A-155B, 163A-163B, 299A-299B, CB 308			
G-CO 10.	Prove theorems about triangles. <i>Theorems include: measures of interior angles of a triangle sum to 180°; 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.</i>	SE/TE: 171-178, 250-256, 285-291, 309-315, 317-322, 324-331, 332-339 TE: 178A-178B, 256A-256B, CB 284, 291A-291B, 315A-315B, 322A-322B, 331A-331B, 339A-339B			
G-CO 11.	Prove theorems about parallelograms. <i>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.</i>	SE/TE: 359-366, 367-374, 375-382, 383-388 TE: 366A-366B, 374A-374B, 382A-382B, 388A-388B			

Standard No.	Standard Language ¹	Publisher Citations	Meets Standard		For Reviewer Use Only
			Y	N	Reviewer Notes
Cluster	Make geometric constructions. [Formalize and explain processes.]				
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.). <i>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.</i>	SE/TE: CB 42, 43-48, CB 49, CB 147, 182-188, 244-248, CB 249, 285-291, CB 413, CB 470 TE: 48A-48B, 188A-188B, 248A-248B, 291A-291B			
G-CO 13.	Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.	SE/TE: 182-188, 250-256, 629-634 TE: 188A-188B, 256A-256B, 634A-634B			
Domain	SIMILARITY, RIGHT TRIANGLES, AND TRIGONOMETRY				
Cluster	Understand similarity in terms of similarity transformations.				
G-SRT 1a.	Verify experimentally the properties of dilations given by a center and a scale factor: A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.	SE/TE: CB 586, 587-593 TE: 593A-593B			

Standard No.	Standard Language ¹	Publisher Citations	Meets Standard		For Reviewer Use Only
			Y	N	Reviewer Notes
G-SRT 1b.	Verify experimentally the properties of dilations given by a center and a scale factor: The dilation of a line segment is longer or shorter in the ratio given by the scale factor.	SE/TE: CB 586, 587-593 TE: 593A-593B			
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: 594-600 TE: 600A-600B			
G-SRT 3.	Use the properties of similarity transformations to establish the Angle-Angle (AA) criterion for two triangles to be similar.	SE/TE: 594-600 TE: 600A-600B			
Cluster	Prove theorems involving similarity.				
G-SRT 4.	Prove theorems about triangles. <i>Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.</i>	SE/TE: 471-478, 491-498 TE: 478A-478B, CB 490, 498A-498B			

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			Y	N	Reviewer Notes
G-SRT 5.	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	<p>SE/TE: 218-224, 226-233, 234-241, 244-248, 250-256, 258-264, 265-271, 285-291, 292-299, 309-315, 353-358, 359-366, 367-374, 375-382, 383-388, 389-397, 432-438, 440-447, 450-458, 460-467</p> <p>TE: 224A-224B, CB 225, 233A-233B, 241A-241B, CB 242-243, 248A-248B, 256A-256B, 264A-264B, 271A-271B, 291A-291B, 299A-299B, 315A-315B, CB 352, 358A-358B, 366A-366B, 374A-374B, 382A-382B, 388A-388B, 397A-397B, 438A-438B, 447A-447B, CB 448-449, 458A-458B, 467A-467B, CB 468-469</p>			
Cluster	Define trigonometric ratios and solve problems involving right triangles.				
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.	<p>SE/TE: CB 506, 507-513</p> <p>TE: 513A-513B</p>			
G-SRT 7.	Explain and use the relationship between the sine and cosine of complementary angles.	<p>SE/TE: 507-513</p> <p>TE: 513A-513B, CB515</p>			

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			Y	N	Reviewer Notes
G-SRT 8.	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. ★	SE/TE: 491-498, 499-505, 507-513, 516-521 TE: 498A-498B, 505A-505B, 513A-513B, CB 515, 521A-521B			
G-SRT 8.1	Derive and use the trigonometric ratios for special right triangles (30°, 60°, 90° and 45°, 45°, 90°). CA	Students learn and apply the ratios of the side lengths in 30°-60°-90° and 45°-45°-90° triangles, and they learn apply the trigonometric ratios sine, cosine, and tangent. However, they do not necessarily recognize the fact that $\sin(30^\circ) = 1/2$, for example. SE/TE: 499-505, 506, 507-513, 514, 515, 516-521 TE: 505A-505B, 513A-513B, 521A-521B			
Cluster	Apply trigonometry to general triangles.				
G-SRT 9.	(+) Derive the formula $A = 1/2 ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.	SE/TE: 643-648 TE: 648A-648B			

Standard No.	Standard Language ¹	Publisher Citations	Meets Standard		For Reviewer Use Only
			Y	N	Reviewer Notes
G-SRT 10.	(+) Prove the Laws of Sines and Cosines and use them to solve problems.	SE/TE: 522-526 TE: 526A-526B			
G-SRT 11.	(+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).	SE/TE: 522-526 TE: 526A-526B			
Domain	CIRCLES				
Cluster	Understand and apply theorems about circles.				
G-C 1.	Prove that all circles are similar.	SE/TE: 649-657 TE: 657A-657B			
G-C 2.	Identify and describe relationships among inscribed angles, radii, and chords. <i>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.</i>	SE/TE: 649-657, 762-769, 771-779, 780-787, 790-797 TE: 657A-657B, CB 658-659, 769A-769B, CB 770, 779A-779B, 787A-787B, CB 789, 797A-797B			
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: 301-307 TE: CB 300, 307A-307B			

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			Y	N	Reviewer Notes
G-C 4.	(+) Construct a tangent line from a point outside a given circle to the circle.	SE/TE: 780-787 TE: 787A-787B			
Cluster	Find arc lengths and areas of sectors of circles. [Radian introduced only as unit of measure]				
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. Convert between degrees and radians. CA	SE/TE: 649-657, 658, 659, 660-666, 674, 675, 676, 679-680 TE: 657A-657B, 666A-666B, 680A-680B			
Domain	EXPRESSING GEOMETRIC PROPERTIES WITH EQUATIONS				
Cluster	Translate between the geometric description and the equation for a conic section.				
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: 798-803 TE: 803A-803B			
G-GPE 2.	Derive the equation of a parabola given a focus and directrix.	SE/TE: CB 804-805			

Standard No.	Standard Language ¹	Publisher Citations	Meets Standard		For Reviewer Use Only
			Y	N	Reviewer Notes
Cluster	Use coordinates to prove simple geometric theorems algebraically. [Include distance formula; relate to Pythagorean Theorem.]				
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).</i>	SE/TE: 414-418 TE: 418A-418B			
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: 189-196, 197-204, 450-458, 460-467 TE: 196A-196B, 204A-204B, 458A-458B, 467A-467B			
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 TE: 26A-26B, 56A-56B			
G-GPE 7.	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. ★	SE/TE: 50-56, 400-405, 616-622, CB 667 TE: 56A-56B, 405A-405B, 622A-622B			

Standard No.	Standard Language ¹	Publisher Citations	Meets Standard		For Reviewer Use Only
			Y	N	Reviewer Notes
Domain	GEOMETRIC MEASUREMENT AND DIMENSION				
Cluster	Explain volume formulas and use them to solve problems.				
G-GMD 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. <i>Use dissection arguments, Cavalieri's principle, and informal limit arguments.</i>	SE/TE: CB 659, 717-724, CB 725 TE: 724A-724B			
G-GMD 3.	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★	SE/TE: 635-641, 717-724, 726-732, 733-740 TE: CB 614-615, 641A-641B, 724A-724B, 732A-732B, 740A-740B			
Cluster	Visualize relationships between two-dimensional and three-dimensional objects.				
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, CB 696-697, 811A-811B			

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			Y	N	Reviewer Notes
G-GMD 5.	Know that the effect of a scale factor k greater than zero on length, area, and volume is to multiply each by k, k^2, and k^3, respectively; determine length, area and volume measures using scale factors. CA	SE/TE: 440-447, 454-458, 459, 460-467, 468-469, 470, 479, 480, 482, 499-505, 587-593, 594-600, 605, 635-641, 742-749 TE: 447A-447B, 458A-458B, 467A-467B, 505A-505B, 593A-593B, 600A-600B, 641A-641B, 749A-749B			
G-GMD 6.	Verify experimentally that in a triangle, angles opposite longer sides are larger, sides opposite larger angles are longer, and the sum of any two side lengths is greater than the remaining side length; apply these relationships to solve real-world and mathematical problems. CA	SE/TE: 324-331, 332-339, 344, 345 TE: 331A-331B, 339A-339B			
Domain	MODELING WITH GEOMETRY				
Cluster	Apply geometric concepts in modeling situations.				
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: 507-513, 616-622, 623-628, 629-634, 699-707, 708-715, 717-724, 726-732, 733-740, 742-749 TE: 513A-513B, 622A-622B, 628A-628B, 634A-634B, 707A-707B, 715A-715B, 724A-724B 732A-732B, 740A-740B, 749A-749B			

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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: 742-749 TE: 749A-749B			
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: 164-169 TE: 169A-169B			
STATISTICS AND PROBABILITY					
Domain	CONDITIONAL PROBABILITY AND THE RULES OF PROBABILITY				
Cluster	Understand independence and conditional probability and use them to interpret data. [Link to data from simulations or experiments.]				
S-CP 1.	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (“or,” “and,” “not”). ★	SE/TE: 824-829 TE: 829A-829B			
S-CP 2.	Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent. ★	SE/TE: 856-861 TE: 861A-861B			

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			Y	N	Reviewer Notes
S-CP 3.	Understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$, and interpret independence of A and B as saying that 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: 856-861 TE: 861A-861B			
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, collect 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: 824-829, 830-835, 850-855 TE: 829A-829B, 835A-835B, 855A-855B			
S-CP 5.	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. ★	SE/TE: 830-835, 856-861 TE: 835A-835B, 861A-861B			

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Cluster	Use the rules of probability to compute probabilities of compound events in a uniform probability model.				
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 terms of the model. ★	SE/TE: 856-861 TE: 861A-861B			
S-CP 7.	Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model. ★	SE/TE: 844-849 TE: 849A-849B			
S-CP 8.	(+) Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B A) = P(B)P(A B)$, and interpret the answer in terms of the model. ★	SE/TE: 844-849 TE: 849A-849B			
S-CP 9.	(+) Use permutations and combinations to compute probabilities of compound events and solve problems. ★	SE/TE: 844-849 TE: 849A-849B			

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			Y	N	Reviewer Notes
Domain	USING PROBABILITY TO MAKE DECISIONS				
Cluster	Use probability to evaluate outcomes of decisions. [Introductory; apply counting rules.]				
S-MD 6.	(+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator). ★	SE/TE: 862-867 TE: 867A-867B			
S-MD 7.	(+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game). ★	SE/TE: 862-867 TE: 867A-867B			
MATHEMATICAL PRACTICES					
MP 1.	Make sense of problems and persevere in solving them.	The Pull It All Together exercises at the end of each chapter of the textbook give students the opportunity to think through non-routine problems that require knowledge from the given chapter and earlier chapters. The Plan and Think elements in each lesson of Geometry give students the tools to attack new problems. For examples, see pages: SE/TE: 3, 69, 159, 205, 237, 431, 479, 602			

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MP 2.	Reason abstractly and quantitatively.	In Geometry, the example Problems with Think-Write or Know-Need-Plan boxes help students develop their ability to understand the math at hand and to understand how to plan to solve future problems. Students reason abstractly as they build proofs, and they apply their new understanding to real-world situations. For examples, see lessons: SE/TE: 1-4, 2-5, 3-2, 4-7, 5-7, 6-1, 7-5, 8-3, 10-3, 11-5, 12-3			
MP 3.	Construct viable arguments and critique the reasoning of others.	The Solve It!/Getting Ready! exercise opening each lesson allows students to think about ideas that will be extended in the lesson. These problems particularly encourage students to think about mathematical situations in more than one way and to share their thinking with others. This allows students to analyze the thinking of others as well as their own thinking. For examples, see pages: SE/TE: 59, 189, 258, 317, 440, 516, 649, 733			

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			Y	N	Reviewer Notes
MP 3.1	Students build proofs by induction and proofs by contradiction. CA [for higher mathematics only].	N/A			
MP 4.	Model with mathematics.	Students have an opportunity to use mathematics to model real-world situations throughout the text. For examples, see lessons: SE/TE: 1-8, 3-5, 6-1, 7-1, 8-4, 10-7, 11-5, 12-2			
MP 5.	Use appropriate tools strategically.	Concept Bytes require students to use manipulatives and technology tools to understand and practice concepts. They can use these tools as they work on their homework exercises. In addition, many lessons have Dynamic Activities that give students online access to tools especially developed for the Pearson program. For examples, see pages: SE/TE: 49, 147, 225, 300, 352, 470, 515, 566, 659, 741, 789			

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MP 6.	Attend to precision.	The textbook contains Reasoning, Error Analysis, and Writing exercises. In these exercises, students analyze and communicate mathematical concepts and use vocabulary and mathematical symbols accurately. For examples, see lessons: SE/TE: 1-2, 2-2, 3-1, 4-5, 6-4, 8-3, 9-1, 10-3, 11-1, 12-3			
MP 7.	Look for and make use of structure.	The Think and Plan elements for each example Problem encourage students to actively look for similarities and differences between mathematical concepts. By responding to the hints provided by the Think and Plan elements, students will require less assistance, developing their own abilities to look for patterns and structure. For examples, see lessons: SE/TE: 1-5, 2-2, 3-2, 4-2, 5-4, 6-5, 7-4, 9-2, 10-2, 11-2, 12-5			

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MP 8.	Look for and express regularity in repeated reasoning.	In Geometry, students find parallels between mathematical ideas (for example, congruence and similarity). For examples, see lessons: SE/TE: 2-1, 3-5, 4-7, 5-2, 6-3, 7-3, 8-2, 9-4, 10-6, 11-5, 12-3			