Archdiocese of Washington Geometry Standards

Suggested Learning Objectives

Scaled Score values of 5350 or smaller

Congruence	Similarity, Right Triangles, and Trigonometry	Circles	Expressing Geometric Properties with Equations	Geometric Measurement and Dimension	Modeling with Geometry
			• The learner will give a name to an ordered pair in the coordinate plane. (CCSS.Math.Content.6.NS.C.6)		

Scaled Score values from 5351 to 5400

Congruence	Similarity, Right Triangles, and Trigonometry	Circles	Expressing Geometric Properties with Equations	Geometric Measurement and Dimension	Modeling with Geometry
			• The learner will be able to apply the meaning of parallel lines, perpendicular lines, and/or skew lines to obtain problem solutions. (*)	• The learner will calculate the area of a given parallelogram. (CCSS.Math.Content.7.G.B.6) • The learner will identify, describe, or apply knowledge of various angles including adjacent, vertical, straight, acute, right, obtuse, supplementary, and complementary. (*) • The learner will calculate the area of a rectangle given its measurements. (CCSS.Math.Content.7.G.B.6)	• The learner will recognize or define the properties of polygons. (MA.PA.G.1) • The learner will classify types of triangles. (*)

Scaled Score values from 5401 to 5450

Congruence	Similarity, Right Triangles, and Trigonometry	Circles	Expressing Geometric Properties with Equations	Geometric Measurement and Dimension	Modeling with Geometry
	• The learner will show an understanding of triangle theorems. (CCSS.Math.Content.HSG-CO.C.10)	• The learner will be able to understand the relationship between the diameter and radius of a circle. (CCSS.Math.Content.7.G.B.4)		• The learner will be able to calculate the missing angle in a supplementary or complementary pair. (*) • The learner will determine the length of a side of a figure when given the area or the perimeter. (*) • The learner will define, recognize, and/or apply alternate interior, alternate exterior, corresponding, and vertical angles. (CCSS.Math.Content.8.G.A.5) • The learner will be able to calculate the missing angle measurements when given two intersecting lines and an angle. (*)	• The learner will characterize parallelograms. (CCSS.Math.Content.5.G.B.4) • The learner will determine whether a figure is symmetric about a line or a point. (*)

Scaled Score values from 5451 to 5500

Congruence	Similarity, Right Triangles, and Trigonometry	Circles	Expressing Geometric Properties with Equations	Geometric Measurement and Dimension	Modeling with Geometry
• The learner will use rigid transformations to establish the congruency of two figures. (CCSS.Math.Content.HSG-CO.B.6) • The learner will identify the criteria to determine that two triangles are congruent. (CCSS.Math.Content.HSG-CO.B.7/CCSS.Math.Content.HSG-SRT.B.5) • The learner will predict the effects of a dilation. (CCSS.Math.Content.HSG-CO.B.6) • The learner will identify congruent vertical angles. (*) • The learner will predict the effects of a rotation. (CCSS.Math.Content.HSG-CO.B.6)	• The learner will apply congruence criteria for triangles to prove the relationships within geometric figures. (CCSS.Math.Content.HSG-SRT.B.5) • The learner will apply the definition of similarity using dilations to determine if two figures are similar. (CCSS.Math.Content.HSG-SRT.A.2) • The learner will use triangle similarity to prove relationships. (CCSS.Math.Content.HSG-SRT.B.5) • The learner will identify the right angle, hypotenuse, and legs of a right triangle. (*)	• The learner will determine the arc length of a circle. (CCSS.Math.Content.HSG-C.B/CCSS.Math.Content.HSG-C.B.5) • The learner will identify the radius, diameter, chord, tangent, secant, and circumference. (MA.PA.G.1)	• The learner will calculate the slope of a line. (MA.PA.AF.7) • The learner will find the center and the radius of a circle. (CCSS.Math.Content.HSG-GPE.A.1) • The learner will graph a parabola. (*) • The learner will find the equation of a parabola. (CCSS.Math.Content.HSG-GPE.A.2)	• The learner will apply knowledge of angles, angle bisectors, perpendicular bisectors, and/or congruent angles to solve geometry problems. (MA.PA.G.1) • The learner will solve a real-world problem by solving for the area of a triangle. (CCSS.Math.Content.7.G.B.6) • The learner will calculate the area of a triangle using the correct formula. (CCSS.Math.Content.7.G.B.6)	• The learner will solve design problems. (CCSS.Math.Content.HSG-MG.A.3)

*not in District of Columbia Archdiocese of Washington Standards 2017 (Mathematics) or Common Core State Standards 2010 (Mathematics)

Scaled Score values from 5501 to 5550

Congruence	Similarity, Right Triangles, and Trigonometry	Circles	Expressing Geometric Properties with Equations	Geometric Measurement and Dimension	Modeling with Geometry
• The learner will apply concepts involving the corresponding parts of congruent triangles. (CCSS.Math.Content .HSG-SRT.B.5) • The learner will predict the effects of a reflection. (CCSS.Math.Content .HSG-CO.B.6) • The learner will prove theorems about triangles. (CCSS.Math.Content .HSG-CO.C.10) • The learner will apply SAS, AAS, and/or ASA theorems to determine the congruence of triangles. (CCSS.Math.Content .HSG-SRT.B.5) • The learner will dilate a 2-D figure. (*)	• The learner will use transformations and the definition of similarity to establish the AA criterion for triangle similarity. (CCSS.Math.Content .HSG-SRT.A.3) • The learner will use the Pythagorean theorem to determine the unknown side length of a right triangle. (CCSS.Math.Content .8.G.B/CCSS.Math.C ontent.8.G.B.7/CCSS .Math.Content.HSG-SRT.C.8/MA.7.G.3/M A.PA.G.5) • The learner will use triangle similarity to solve problems. (CCSS.Math.Content .HSG-SRT.B.5)	• The learner will identify the relationship between central, inscribed, and circumscribed angles. (CCSS.Math.Content .HSG-C.A.2) • The learner will identify relationships among inscribed angles, radii, and chords including the fact that inscribed angles on a diameter are right angles. (CCSS.Math.Content .HSG-C.A.2)	• The learner will find the perimeter of a polygon on a coordinate grid using the distance formula. (CCSS.Math.Content .HSG-GPE.B.7) • The learner will find the area of a triangle or a rectangle on a coordinate grid using the distance formula. (CCSS.Math.Content .HSG-GPE.B.7) • The learner will use coordinate geometry to prove theorems algebraically. (CCSS.Math.Content .HSG-GPE.B.4) • The learner will find the perimeter of the polygons using the coordinates of the vertices. (CCSS.Math.Content .HSG-GPE.B.7)	• The learner will find the area of composite figures. (CCSS.Math.Content .7.G.B.6/MA.PA.M.5) • The learner will find the circumference of a circle given the diameter or radius. (CCSS.Math.Content .7.G.B.4) • The learner will calculate the sum of the angles of a polygon. (*) • The learner will calculate the area of a triangle or trapezoid. (CCSS.Math.Content .7.G.B.6) • The learner will apply the properties of a perpendicular bisector in solving both mathematical and/or real-world problems. (*)	• The learner will define the properties of quadrilaterals. (MA.PA.G.1) • The learner will use geometric shapes to describe objects. (CCSS.Math.Content .HSG-MG.A.1) • The learner will identify the line(s) of symmetry in a figure. (*)

*not in District of Columbia Archdiocese of Washington Standards 2017 (Mathematics) or Common Core State Standards 2010 (Mathematics)

Congruence	Similarity, Right Triangles, and Trigonometry	Circles	Expressing Geometric Properties with Equations	Geometric Measurement and Dimension	Modeling with Geometry
• The learner will use the definition of angles, polygons, parallel and perpendicular lines, rigid motions, parallelograms, and rectangles. (CCSS.Math.Content.HSG-CO.A.1) • The learner will predict the effects of a translation. (CCSS.Math.Content.HSG-CO.B.6)	• The learner will prove that a line parallel to one side of a triangle divides the other two sides proportionally and that the line that divides two sides of a triangle proportionally is parallel to the third side. (CCSS.Math.Content.HSG-CO.C.10) • The learner will use the Law of Sines and Law of Cosines to solve real-world application problems. (CCSS.Math.Content.HSG-SRT.D.10/CCSS.Math.Content.HSG-SRT.D.11)		• The learner will write the equation of a parabola. (CCSS.Math.Content.HSG-GPE.A.2) • The learner will define ellipse. (CCSS.Math.Content.HSG-GPE.A.3)	• The learner will find the area of an ellipse. (*) • The learner will use trigonometric sum formulas. (*)	

*not in District of Columbia Archdiocese of Washington Standards 2017 (Mathematics) or Common Core State Standards 2010 (Mathematics)

Copyright © 2018 SCANTRON Corporation. All Rights reserved.

6 of 11

Scaled Score values from 5551 to 5600

Congruence	Similarity, Right Triangles, and Trigonometry	Circles	Expressing Geometric Properties with Equations	Geometric Measurement and Dimension	Modeling with Geometry
• The learner will prove theorems about parallelograms. (CCSS.Math.Content.HSG-CO.C.11) • The learner will make geometric constructions. (CCSS.Math.Content.HSG-CO.D.12/MA.PA.G.2) • The learner will prove properties among a parallelogram, rectangle, rhombus, square, trapezoid, and kite. (*) • The learner will translate a 2-D figure. (CCSS.Math.Content.HSG-CO.A.5)	• The learner will recognize and/or evaluate tangent, sine, and/or cosine for an acute angle of a right triangle. (*) • The learner will solve real-world right triangle problems using trigonometric concepts. (CCSS.Math.Content.HSG-SRT.C.8) • The learner will determine whether a given triangle is a right triangle by applying the Pythagorean theorem and using a calculator. (CCSS.Math.Content.HSG-SRT.C.8) • The learner will use the Law of Sines and Law of Cosines to solve problems (CCSS.Math.Content.HSG-SRT.D.10)	• The learner will construct a tangent to a circle at a given point. (CCSS.Math.Content.HSG-C.A.4) • The learner will prove theorems about circles. (*) • The learner will identify relationships among inscribed angles, radii, and chords including the fact that the radius of a circle is perpendicular to the tangent where the radius intersects the circle. (CCSS.Math.Content.HSG-C.A.2/MA.PA.G.1)	• The learner will show lines are parallel by showing the relationship between slopes. (CCSS.Math.Content.HSG-GPE.B.5) • The learner will use the relationship between parallel and perpendicular lines to solve problems. (CCSS.Math.Content.HSG-GPE.B.5) • The learner will write the equation of a circle. (CCSS.Math.Content.HSG-GPE.A.1) • The learner will find the equation of lines when given various criteria including slope of perpendicular and parallel. (CCSS.Math.Content.HSG-GPE.B.5)	• The learner will determine the distance between two points. (CCSS.Math.Content.8.G.B.8) • The learner will identify the cross sections of three-dimensional objects. (CCSS.Math.Content.HSG-GMD.B.4/MA.PA.G.3) • The learner will calculate the area of a circle when no formula is given. (*) • The learner will determine the surface area of a three-dimensional figure. (CCSS.Math.Content.7.G.B.6) • The learner will be able to calculate the radius or diameter, given the circumference or area of a circle. (*)	

*not in District of Columbia Archdiocese of Washington Standards 2017 (Mathematics) or Common Core State Standards 2010 (Mathematics)

Congruence	Similarity, Right Triangles, and Trigonometry	Circles	Expressing Geometric Properties with Equations	Geometric Measurement and Dimension	Modeling with Geometry
• The learner will explore the definitions of translations by working with angles, circles, perpendicular lines, parallel lines, and line segments. (CCSS.Math.Content.HSG-CO.A.4/MA.PA.G.1)	• The learner will use the relationship between the sine and cosine of two complementary angles. (*)		• The learner will find the point on a line segment that divides the segment correctly when given a ratio. (CCSS.Math.Content.HSG-GPE.B.6)	• The learner will calculate the volume of a given prism or pyramid. (CCSS.Math.Content.HSG-GMD.A.3) • The learner will calculate the volume of a sphere. (CCSS.Math.Content.8.G.C/CCSS.Math.Content.8.G.C.9/CCSS.Math.Content.HSG-GMD.A.3) • The learner will calculate the volume of a given cylinder or cone. (CCSS.Math.Content.8.G.C/CCSS.Math.Content.8.G.C.9/CCSS.Math.Content.HSG-GMD.A.3) • The learner will determine the midpoint between two points. (*)	

Scaled Score values from 5601 to 5650

Congruence	Similarity, Right Triangles, and Trigonometry	Circles	Expressing Geometric Properties with Equations	Geometric Measurement and Dimension	Modeling with Geometry
• The learner will prove theorems about angles. (CCSS.Math.Content.HSG-CO.C.9) • The learner will prove theorems about lines. (CCSS.Math.Content.HSG-CO.C.9) • The learner will reflect a 2-D figure. (CCSS.Math.Content.HSG-CO.A.3/CCSS.Math.Content.HSG-CO.A.5)	• The learner will determine whether two triangles are similar. (CCSS.Math.Content.HSG-SRT.B.5) • The learner will use triangle similarity to prove the Pythagorean Theorem. (CCSS.Math.Content.HSG-SRT.B.4)	• The learner will define the radian measure of the angle as the constant of proportionality. (CCSS.Math.Content.HSG-C.B.5) • The learner will determine whether a given point lies on a circle using its equation. (*) • The learner will draw central angles in a given circle using a protractor (create a circle graph). (*) • The learner will be able to calculate the area of a sector of a circle, given the measure of a central angle and the radius of the circle. (CCSS.Math.Content.HSG-C.B)	• The learner will write the equation of a hyperbola. (CCSS.Math.Content.HSG-GPE.A.3) • The learner will find the vertex of the parabola. (CCSS.Math.Content.HSG-GPE.A.3) • The learner will graph an ellipse. (*) • The learner will graph a circle. (*) • The learner will find the equation of an ellipse. (CCSS.Math.Content.HSG-GPE.A.3) • The learner will find the equation of a hyperbola. (CCSS.Math.Content.HSG-GPE.A.3) • The learner will graph a hyperbola (*)	• The learner will find the volume of 3-D figures in real-world application problems. (CCSS.Math.Content.HSG-GMD.A.3) • The learner will find the area of polygons using triangles. (CCSS.Math.Content.7.G.B.6) • The learner will identify the two-dimensional pattern and/or shapes that make up a three-dimensional figure. (*)	• The learner will apply the concept of density as it relates to volume. (CCSS.Math.Content.HSG-MG.A.2)

Congruence	Similarity, Right Triangles, and Trigonometry	Circles	Expressing Geometric Properties with Equations	Geometric Measurement and Dimension	Modeling with Geometry
• The learner will rotate a 2-D figure. (CCSS.Math.Content.HSG-CO.A.3/CCSS.Math.Content.HSG-CO.A.5)		• The learner will construct circumscribed circles when given a triangle. (CCSS.Math.Content.HSG-C.A.3) • The learner will construct inscribed circles when given a triangle. (CCSS.Math.Content.HSG-C.A.3)	• The learner will write the equation of an ellipse. (CCSS.Math.Content.HSG-GPE.A.3) • The learner will find the foci of an ellipse. (CCSS.Math.Content.HSG-GPE.A.3)	• The learner will compare the area or volume of a figure when the given dimensions are changed. (*)	

*not in District of Columbia Archdiocese of Washington Standards 2017 (Mathematics) or Common Core State Standards 2010 (Mathematics)

Copyright © 2018 SCANTRON Corporation. All Rights reserved.

10 of 11

Scaled Score values of 5701 or larger

Congruence	Similarity, Right Triangles, and Trigonometry	Circles	Expressing Geometric Properties with Equations	Geometric Measurement and Dimension	Modeling with Geometry
			• The learner will find the foci of a hyperbola. (CCSS.Math.Content.HSG-GPE.A.3)		