

First Six Weeks

Math Standards Sequence

Grade

Domain	Cluster	Standard	Dates
G-CO	Experiment with transformations in the plane	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.	1 Week
G-CO	Prove geometric theorems	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 segments endpoints.	2 Weeks
G-CO	Prove Geometric Theorems	10. Prove theorems about triangles. Theorems include: measures of 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 a parallel to the third side and half the length, the medians of a triangle meet at a point.	1.5 Weeks
G-CO	Make Geometric Constructions	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.	1.5 Weeks

Second Six Weeks Math Standards Sequence Grade

Domain	Cluster	Standard	Dates
G-CO	Understand congruence in terms of rigid motions	8. Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions	1 Week
G-SRT	Understand similarity in terms of similarity transformations	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.	1 Week
G – SRT	Understand similarity in terms of similarity transformations	3. Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar	1 Week
G – SRT	Define trigonometric ratios and solve problems involving right triangles	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.	1 Week
G-GPE	Use coordinates to prove simple geometric theorems algebraically	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).	2 Days
G-GPE	Use coordinates to prove simple geometric theorems algebraically	6. Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	1 Days
G-GPE	Use coordinates to prove simple geometric theorems algebraically	7. Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. ★	2 Days

Third Six Weeks Math Standards Sequence Grade

Domain	Cluster	Standard	Dates
G-CO	Experiment with transformations in the plane	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).	3 Days
G-CO	Experiment with transformations in the plane	3. Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	2 Days
G-CO	Experiment with transformations in the plane	4. Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.	3 Days
G-CO	Experiment with transformations in the plane	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.	3 Days
G-CO	Understand congruence in terms of rigid motions	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.	3 Days
G-CO	Understand congruence in terms of rigid motions	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.	2 Days
G-SRT	Understand similarity in terms of similarity transformations	1. Verify experimentally the properties of dilations given by a center and a scale factor: a. 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. b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor	3 Days
G-CO	Make geometric constructions	13. Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.	2 Days

Fourth Six Weeks Math Standards Sequence Grade

Domain	Cluster	Standard	Dates
G-SRT	Define trigonometric ratios and solve problems involving right triangles	7. Explain and use the relationship between the sine and cosine of complementary angles.	2 Days
G-SRT	Define trigonometric ratios and solve problems involving right triangles	8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. ★	2 Days
G-GPE	Translate between the geometric description and the equation for a conic section	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.	2 Days
G-C	Understand and apply theorems about circles	1. Prove that all circles are similar	1 Week
G-C	Understand and apply theorems about circles	2. Identify and describe relationships among inscribed angles, radii, and chords. 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.	2 Weeks
G-C	Understand and apply theorems about circles	3. Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.	1 Week
G-C	Find arc lengths and areas of sectors of circles	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.	1 Week