

New York State Next Generation Mathematics Learning Standards

Geometry Crosswalk

Geometry
Congruence (G.CO)

Cluster	NYS P-12 CCLS	NYS Next Generation Learning Standard
<p>Experiment with transformations in the plane.</p>	<p>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.</p> <p>G-CO.2 Represent transformations in the plane using, e.g., transparencies and geometry software; describe</p>	<p>GEO-G.CO.1 Know precise definitions of angle, circle, perpendicular lines, parallel lines, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc as these exist within a plane.</p>

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Cluster	NYS P-12 CCLS	Next Generation Learning Standard (2017)
<p>Prove geometric theorems.</p>	<p>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</i></p> <p><u>Note:</u> Theorems include but are not limited to the listed theorems. Example: theorems that involve complementary or supplementary angles.</p>	<p>GEO-G.CO.9 Prove and apply theorems about lines and angles.</p> <p>Note: Include multi-step proofs and algebraic problems built upon these concepts.</p> <p>Examples of theorems include but are not limited to:</p> <ul style="list-style-type: none"> < Vertical angles are congruent. < If two parallel lines are cut by a transversal, then the alternate interior angles are congruent. < The points on a perpendicular bisector are equidistant from the endpoints of the line segment.

G-CO.10 Prove theorems about triangles. *Theorems*

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Cluster

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Similarity, Right Triangles and Trigonometry (G.SRT)

Cluster	NYS P-12 CCLS	NYS Next Generation Learning Standard
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</i>	

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Similarity, Right Triangles and Trigonometry (G.SRT)

Cluster	NYS P-12 CCLS	NYS Next Generation Learning Standard
<p>Define trigonometric ratios and solve problems involving right triangles.</p>	<p>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>	

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**Geometry
Circles (G.C)**

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Geometry

Expressing Geometric Properties with Equations (G.GPE)

Cluster	NYS P-12 CCLS	NYS Next Generation Learning Standard
<p>Translate between the geometric description and the equation of a conic section.</p>	<p>G-GPE.1 Derive the equation of a circle of given center and radius using the Pythagorean Theorem;</p>	

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Expressing Geometric Properties with Equations (G.GPE)

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Geometric Measurement and Dimension (G.GMD)

Cluster	NYS P-12 CCLS	NYS Next Generation Learning Standard
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.</i>	GEO-G.GMD.1 Provide informal arguments for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.
	G-GMD.3 Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★	GEO-G.GMD.3 Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★
Visualize relationships between two-dimensional and three-dimensional objects.	G-GMD.4 Identify the shapes of two-dimensional	

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Modeling with Geometry (G.MG) ★

Cluster	NYS P-12 CCLS	NYS Next Generation Learning Standard
Apply geometric		