

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><b>Experiment with transformations in the plane.</b></p>	<p><b>G-CO.1</b> 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><b>G-CO.2</b> Represent transformations in the plane using, e.g., transparencies and geometry software; describe</p>	<p><b>GEO-G.CO.1</b> 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 <b>as these exist within a plane.</b></p>





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Congruence (G.CO)

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

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

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**Geometry Crosswalk**

**Geometry**

**Congruence (G.CO)**

**Cluster**





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Geometry

Similarity, Right Triangles and Trigonometry (G.SRT)

Cluster	NYS P-12 CCLS	NYS Next Generation Learning Standard
<b>Prove theorems involving similarity.</b>	<b>G-SRT.4</b> 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><b>Define trigonometric ratios and solve problems involving right triangles.</b></p>	<p><b>G-SRT.6</b> 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 Crosswalk**

**Geometry  
Circles (G.C)**

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Geometry Crosswalk

Geometry

Expressing Geometric Properties with Equations (G.GPE)

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

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**Geometry**

**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
<b>Explain volume formulas and use them to solve problems.</b>	<b>G-GMD.1</b> 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>	<b>GEO-G.GMD.1</b> Provide informal arguments for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.
	<b>G-GMD.3</b> Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★	<b>GEO-G.GMD.3</b> Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. ★
<b>Visualize relationships between two-dimensional and three-dimensional objects.</b>	<b>G-GMD.4</b> 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		