North Dakota Mathematics Content Standards

High School: Geometry Prioritized Standards

Northeast Education Services Cooperative (NESC) - 2017

How to Read This Document

Example: HS.G-CO.1
"HS.G-CO.1" references the grade level followed by the course, domain and then the standard. This coding is taken directly from the North Dakota Department of Public Instruction's standards document.

Prioritized Standards

Congruence

Experiment with transformations in the plane:

Code	Standard	Endurance	Leverage	Readiness	Assessment	Teacher Judgement	Total Score
HS.G-CO.1	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, and plane.	✓	✓	✓	✓	✓	5

Understand congruence in terms of rigid motions:

No standards were prioritized within this cluster.

For more information about this document or the prioritization process please contact the NESC:
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Prove and apply geometric theorems:

Code	Standard	Endurance	Leverage	Readiness	Assessment	Teacher Judgement	Total Score
HS.G-CO.9	Prove and apply theorems about lines and angles.	✓	✓		✓	✓	4
HS.G-CO.10	Prove and apply theorems about triangle properties.	✓	✓		✓	✓	4
HS.G-CO.11	Prove and apply theorems about parallelograms.	✓	✓		✓	✓	4

Make geometric constructions:

No standards were prioritized within this cluster.

Similarity, Right Triangles, and Trigonometry

Understand similarity:

Code	Standard	Endurance	Leverage	Readiness	Assessment	Teacher Judgement	Total Score
HS.G-SRT.2	Given two figures, use transformations to decide if they are similar. Apply the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.	✓	✓		✓	✓	4

Prove theorems involving similarity:

Code	Standard	Endurance	Leverage	Readiness	Assessment	Teacher Judgement	Total Score
HS.G-SRT.5	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	✓	✓	✓	✓	✓	5

Define trigonometric rations and solve problems involving right triangles:

Code	Standard	Endurance	Leverage	Readiness	Assessment	Teacher Judgement	Total Score
HS.G-SRT.6	Understand how the properties of similar right triangles allow the trigonometric ratios to be defined, and determine the sine, cosine, and tangent of an acute angle in a right triangle	✓	✓	✓	✓	✓	5
HS.G-SRT.8	Use special right triangles (30°-60°-90° and 45°-45°-90°), trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.	✓	✓	✓	✓	✓	5

Apply trigonometry to general triangles:

No standards were prioritized within this cluster.

Circles

Understand and apply theorems about circles:

No standards were prioritized within this cluster.

Find arc lengths and areas of sectors of circles:

Code	Standard	Endurance	Leverage	Readiness	Assessment	Teacher Judgement	Total Score
HS.G-C.5	Explain and use the formulas for arc length and area of sectors of circles.		✓	✓	✓	✓	4

Expressing Geometric Properties with Equations

Understand and use conic sections:

No standards were prioritized within this cluster.

Use coordinates to verify simple geometric theorems algebraically:

Code	Standard	Endurance	Leverage	Readiness	Assessment	Teacher Judgement	Total Score
HS.G-GPE.4	Use coordinates to verify simple geometric theorems algebraically. Use coordinates to verify algebraically that a given set of points produces a particular type of triangle or quadrilateral.	✓		✓	✓	✓	4
HS.G-GPE.5	Develop and verify the slope criteria for parallel and perpendicular lines. Apply the slope criteria for parallel and perpendicular lines to solve geometric problems using algebra.	✓	✓	✓	✓	✓	5
HS.G-GPE.6	Use coordinates to find the midpoint or endpoint of a line segment. (+) Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	✓	✓	✓	✓	✓	5
HS.G-GPE.7	Use coordinates to compute perimeters of polygons and areas of triangles, parallelograms, trapezoids and kites.	✓	✓	✓	✓	✓	5

Geometric Measurement and Dimension

Explain surface area and volume formulas and use them to solve problems:

Code	Standard	Endurance	Leverage	Readiness	Assessment	Teacher Judgement	Total Score
HS.G-GMD.2	Calculate the surface area for prisms, cylinders, pyramids, cones, and spheres to solve problems.		✓	✓	✓	✓	4
HS.G-GMD.3	Know and apply volume formulas for prisms, cylinders, pyramids, cones, and spheres to solve problems.		✓	✓	✓	✓	4

Visualize relationships between two-dimensional and three-dimensional objects:

No standards were prioritized within this cluster.

Modeling with Geometry

Apply geometric concepts in modeling situations:

No standards were prioritized within this cluster.