

1.0

GEOMETRY CONTENT STANDARDS

Students demonstrate understanding by identifying and giving examples of undefined terms, axioms, theorems, and inductive and deductive reasoning.

2.0

GEOMETRY CONTENT STANDARDS

Students write geometric proofs,
including proofs by contradiction.

3.0

GEOMETRY CONTENT STANDARDS

Students construct and judge the validity of a logical argument and give counterexamples to disprove a statement.

4.0

GEOMETRY CONTENT STANDARDS

Students prove basic theorems involving congruence and similarity.

5.0

GEOMETRY CONTENT STANDARDS

Students prove that triangles are congruent or similar, and they are able to use the concept of corresponding parts of congruent triangles.

6.0

GEOMETRY CONTENT STANDARDS

Students know and are able to use the triangle inequality theorem.

7.0

GEOMETRY CONTENT STANDARDS

Students prove and use theorems involving the properties of parallel lines cut by a transversal, the properties of quadrilaterals, and the properties of circles.

8.0

GEOMETRY CONTENT STANDARDS

Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.

9.0

GEOMETRY CONTENT STANDARDS

Students compute the volumes and surface areas of prisms, pyramids, cylinders, cones, and spheres; and students commit to memory the formulas for prisms, pyramids, and cylinders.

10.0

GEOMETRY CONTENT STANDARDS

Students computes areas of polygons, including rectangles, scalene triangles, equilateral triangles, rhombi, parallelograms, and trapezoids.

11.0

GEOMETRY CONTENT STANDARDS

Students determine how changes in dimensions affect the perimeter, area, and volume of common geometric figures and solids.

12.0

GEOMETRY CONTENT STANDARDS

Students find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems.

13.0

GEOMETRY CONTENT STANDARDS

Students prove relationships between angles in polygons by using properties of complementary, supplementary, vertical and exterior angles.

14.0

GEOMETRY CONTENT STANDARDS

Students prove the
Pythagorean theorem.

15.0

GEOMETRY CONTENT STANDARDS

Students use the Pythagorean theorem to determine distance and find missing lengths of sides of right triangles.

16.0

GEOMETRY CONTENT STANDARDS

Students perform basic constructions with a straightedge and compass, such as angle bisectors, perpendicular bisectors, and the line parallel to a given line through a point off the line.

17.0

GEOMETRY CONTENT STANDARDS

Students prove theorems by using coordinate geometry, including the midpoint of a line segment, the distance formula, and various forms of equations of lines and circles.

18.0 GEOMETRY CONTENT STANDARDS

Students know the definitions of the basic trigonometric functions defined by the angles of a right triangle. They also know and are able to use elementary relationships between them. For example, $\tan(x) = \sin(x)/\cos(x)$, $\sin^2(x) + \cos^2(x) = 1$.

19.0

GEOMETRY CONTENT STANDARDS

Students use trigonometric functions to solve for an unknown length of a side of a right triangle, given an angle and a length of a side.

20.0

GEOMETRY CONTENT STANDARDS

Students know and are able to use angle and side relationships in problems with special right angles, such as 30° , 60° , and 90° triangles and 45° , 45° , and 90° triangles.

21.0

GEOMETRY CONTENT STANDARDS

Students prove and solve problems regarding relationships among chords, secants, tangents, inscribed angles, and inscribed and circumscribed polygons of circles.

22.0

GEOMETRY CONTENT STANDARDS

Students know the effect of rigid motions on figures in the coordinate plane and space, including rotations, translations, and reflections.