

St. Clair R-XIII

School District

Geometry Priority Standards per Quarter

Quarter 1

Define angle, circle, perpendicular line, parallel line, line segment and ray based on the undefined notions of point, line, distance along a line and distance around a circular arc.

Represent transformations in the plane, and describe them as functions that take points in the plane as inputs and give other points as outputs.

Demonstrate the ability to rotate, reflect or translate a figure, and determine a possible sequence of transformations between two congruent figures.

Construct geometric figures using various tools and methods.

Prove the slope criteria for parallel and perpendicular lines and use them to solve problems.

Prove theorems about lines and angles.

Quarter 2

Develop the criteria for triangle congruence from the definition of congruence in terms of rigid motions.

Prove theorems about lines and angles.

Understand that side ratios in right triangles define the trigonometric ratios for acute angles.

Prove theorems about triangles.

Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

Use trigonometric ratios and the Pythagorean Theorem to solve right triangles.

Prove the slope criteria for parallel and perpendicular lines and use them to solve problems.

Use coordinates to compute perimeters of polygons and areas of triangles and rectangles.

Quarter 3

Prove theorems about polygons.

Apply geometric methods to solve design mathematical modeling problems.

Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

Understand that side ratios in right triangles define the trigonometric ratios for acute angles.

Use trigonometric ratios and the Pythagorean Theorem to solve right triangles.

Use coordinates to compute perimeters of polygons and areas of triangles and rectangles.

Quarter 4

Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid and cone.

Use coordinates to compute perimeters of polygons and areas of triangles and rectangles.

Use volume formulas for cylinders, pyramids, cones, spheres and composite figures to solve problems.

Identify and describe relationships among inscribed angles, radii and chords of circles.

Derive the equation of a circle.

Use trigonometric ratios and the Pythagorean Theorem to solve right triangles.