Learning Targets

Coordinate Geometry

Lesson 1: Rigid Transformations in the Plane

- I can prove triangles are congruent using coordinates.
- I can reflect, rotate, and translate figures in the coordinate plane.

Lesson 2: Transformations as Functions

- I can use coordinate transformation notation to take points in the plane as inputs and give other points as outputs.

Lesson 3: Types of Transformations

- I can determine whether a transformation produces congruent or similar images (or neither).

Lesson 4: Distances and Circles

- I can derive an equation for a circle in the coordinate plane.

Lesson 5: Squares and Circles

- I understand how squared binomials relate to the equation of a circle.

Lesson 6: Completing the Square

- I can complete the square to find the center and radius of a circle.

Lesson 7: Distances and Parabolas

- I know that a parabola is the set of points equidistant from a given point and line.

Lesson 8: Equations and Graphs

- I can derive an equation for a parabola in the coordinate plane given a focus and a directrix.

Lesson 9: Equations of Lines

- I can use the definition of slope to write the equation for a line in point-slope form.

Lesson 10: Parallel Lines in the Plane

- I can prove that the slopes of parallel lines are equal.
- I can use slopes of parallel lines to solve problems.

Lesson 11: Perpendicular Lines in the Plane

- I can prove that the slopes of perpendicular lines are opposite reciprocals.
- I can use slopes of perpendicular lines to solve problems.

Lesson 12: It's All on the Line

- I can gather information about a line and write its equation.

Lesson 13: Intersection Points

- I can use a graph to find the intersection points of a line and a circle.

Lesson 14: Coordinate Proof

- I can use coordinates of figures to prove geometric theorems.

Lesson 15: Weighted Averages

- I can calculate the coordinates of a point on a line segment that partitions the segment in a given ratio.

Lesson 16: Weighted Averages in a Triangle

- I can determine the point where the medians of a triangle intersect.

Lesson 17: Lines in Triangles

- I can determine the point where the altitudes of a triangle intersect.