Geometry Unit 2 Coordinate Geometry
Student Unit Overview Sheet

Kentuck Common Core Standards

G-GPE-6 Find the point on a directed line segment between two given points that partitions the segment in a given ratio.

G-GPE-7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.

G-GPE-5 Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).

G-CO-11 Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversley, rectangles are parallelograms with congruent diagonals.

G-GPE-4 Use coordinates to prove simple geometric theorems algebraically. For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point $(1, \sqrt{3})$ lies on the circle centered at the origin and containing the point (0, 2).

Learning Targets

1. Find the point on a directed line segment between two given points that divides the segment in a given ratio (G-GPE-6)
2. Use coordinates to calculate perimeters of polygons and areas of triangle or rectangles (G-GPE-7)
3. Prove the slope criteria for parallel lines and for perpendicular lines (G-GPE-5)
4. Apply parallel lines and perpendicualar lines to solve geometric problems (G-GPE-5)
5. Prove opposite sides of parallelogram are congruent. (G-CO-11)
6. Prove opposite angles of a parallelogram are congruent. (G-CO-11)
7. Prove the diagonals of a parallelogram bisect each other. (G-CO-11)
8. Prove rectangles are parallelograms with congruent diagonals. (G-CO-11)
9. Use coordinates to prove simple geometric theorems algebraically (G-GPE-4)