Integrated II Unit **6**: Coordinate Geometry
Universal Essential Question: Why is resilience crucial for success?
Content Essential Question: How do mathematical relationships help us make sense of the world?
How do we describe geometric relationships algebraically?

Learning Objectives At the completion of this unit, I should …	Self-Rating, evidence from my INB and practice papers 0 – I have no idea. 1 – I cannot solve problems yet but I am beginning to understand the strategies 2 – I can solve problems but do not yet know why the math works. 3 – I understand why the math works and can solve most problems but still make mistakes. 4 – I understand why the math works and can consistently and accurately solve problems.		
Know – The following formulas: slope, distance, midpoint, and Pythagorean theorem – Vocabulary related to coordinate geometry			
Be able to – Prove the Pythagorean Theorem using a variety of methods – Determine the missing side of a right triangle. – Use the Converse of the Pythagorean Theorem to determine if a triangle is a right, acute, or obtuse triangle. – Use the Pythagorean Theorem in real-life situations. – Calculate the distance between 2 points on a coordinate plane. – Calculate the midpoint between 2 points on a coordinate plane. – Find the equations of medians, altitudes, and perpendicular bisectors of triangle. – Use the distance formula and midpoint formula in coordinate proofs.			
Understand – How the distance formula related to the Pythagorean Theorem. – How the midpoint formula is developed – How the Pythagorean Theorem determines the type of triangle formed			

Vocabulary of coordinate geometry

Legs	Obtuse triangle	Median
Hypotenuse	Acute triangle	Perpendicular Bisector
Pythagorean Theorem	Midpoint	Altitude
Distance	Slope	Proof
Right angle	Parallel	Quadrilateral
Right triangle	Perpendicular	

Reflection:

1. Create a concept map for coordinate geometry. Include the vocabulary listed above and all important formulas. Be sure to include words linking the concepts to help make sense of the map.

2. How does the mathematics we studied in this unit relate to the content essential questions? Be specific by providing evidence from your learning activities for the unit.