Tripoli Evangelical School

9IP Mathematics Curriculum

Textbooks: Algebra 2-HoltMcDougal, Geometry- HoltMcDougal

LEARNING DOMAINS	OBJECTIVES	LEARNING OUTCOMES
Algebra	Equations	- Solve one-step equations in one variable by using addition or subtraction. - Solve one-step equations in one variable by using multiplication or division. - Solve equations in one variable that contain more than one operation. - Solve equations in one variable that contain variable terms on both sides. - Solve a formula for a given variable. - Solve an equation in two or more variables for one of the variables. - Solve equations in one variable that contain absolute-value expressions. - Write and use ratios, rates, and unit rates. - Write and solve proportions. - Solve problems involving percents. - Find percent increase and decrease.
Algebra	Inequalities	- Identify solutions of inequalities in one variable. - Write and graph inequalities in one variable. - Solve one-step inequalities by using addition. - Solve one-step inequalities by using subtraction. - Solve one-step inequalities by using multiplication. - Solve one-step inequalities by using division. - Solve inequalities that contain more than one operation. - Solve inequalities that contain variable terms on both sides. - Solve compound inequalities in one variable. - Graph solution sets of compound inequalities in

		one variable.
		• Solve inequalities in one variable involving absolute-value expressions.
Geometry	Properties and Attributes of Triangles	• Apply theorems about perpendicular bisectors. • Apply theorems about angle bisectors. • Apply properties of perpendicular bisectors of a triangle. • Apply properties of angle bisectors of a triangle. • Apply properties of medians of a triangle. • Apply properties of altitudes of a triangle. • Use properties of triangle midsegments. • Apply inequalities in one triangle. • Apply inequalities in two triangles. • Use the Pythagorean Theorem and its converse to solve problems. • Use Pythagorean inequalities to classify triangles. • Apply properties of special right triangles.
Algebra	Functions	• Match simple graphs with situations. • Graph a relationship. • Identify functions. • Find the domain and range of relations and functions. • Identify dependent and independent variables. • Write an equation in function notation. • Evaluate a function for given input values. • Graph functions given a limited domain. • Graph functions given a domain of all real numbers.
Algebra	Systems of Equations	• Identify solutions of systems of linear equations in two variables. • Solve systems of linear equations in two variables by graphing. • Solve systems of linear equations in two variables by substitution. • Solve systems of linear equations in two variables by comparison.

		• Solve systems of linear equations in two variables by elimination. • Compare and choose an appropriate method for solving systems of linear equations. • Solve special systems of linear equations in two variables. • Classify systems of linear equations and determine the number of solutions.
Trigonometry	Right Triangles and Trigonometry	• Use geometric mean to find segment lengths in right triangles. • Apply similarity relationships in right triangles to solve problems. • Find the sine, cosine and tangent of an acute angle. • Use trigonometric ratios to find side lengths in right triangles. • Use trigonometric ratios to find angle measures in right triangles.
Algebra	Exponents and Polynomials	• Evaluate expressions containing zero and integer exponents. • Simplify expressions containing zero and integer exponents. • Evaluate and multiply by powers of 10. • Convert between standard notation and scientific notation. • Use multiplication properties of exponents to evaluate and simplify expressions. • Use division properties of exponents to evaluate and simplify expressions. • Evaluate and simplify expressions containing rational exponents. • Classify polynomials. • Write polynomials in standard form. • Evaluate polynomial expressions. • Add and subtract polynomials. • Multiply polynomials. • Find special products of binomials.

Algebra	Factoring Polynomials	- Write the prime factorization of numbers. - Find the GCF of monomials. - Factor polynomials by using the greatest common factor (GCF). - Factor quadratic trinomials of the form $x^2 + bx + c$. - Factor quadratic trinomials of the form $ax^2 + bx + c$. - Factor perfect-square trinomials. - Factor the difference of two squares. - Choose an appropriate method for factoring a polynomial. - Combine methods for factoring a polynomial.