

The Asian International School Curriculum Mapping

Grade: 8 (Pre-Intermediate)

Subject: Mathematics

School Year: 2018-2019

Month	# of Days	Core Standard	Strand	Content	Skills	Activities	Assessments
Aug.	3	AERO.HSAA PR.1	Patterns, Functions and Algebra	<p>Chapter 1: Polynomials and Algebraic Fractions</p> <p>Unit 1: Multiplication of polynomials</p> <ul style="list-style-type: none"> • Monomial x Polynomial • Polynomial x Polynomial • Identities <ul style="list-style-type: none"> ○ Square of a sum ○ Square of a difference ○ Sum of two squares ○ Difference of two squares ○ Cube of a sum ○ Cube of a difference ○ Sum of two cubes ○ Difference of two cubes 	<ul style="list-style-type: none"> • Unit 1: Multiplication of polynomials • Monomial x Polynomial • Polynomial x Polynomial • Identities • Square of a sum • Square of a difference • Sum of two squares • Difference of two squares • Cube of a sum • Cube of a difference • Sum of two cubes • Difference of two cubes 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets

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	2	AERO.HSA.REI.4	Patterns, Functions and Algebra	Chapter 1: Polynomials and Algebraic Fractions Unit 2: Factoring <ul style="list-style-type: none"> • Factoring by grouping • Factoring by identities • Factoring by grouping and identities 	<ul style="list-style-type: none"> • Factor a given polynomial by grouping • Factor a given polynomial using the identities • Factor a given polynomial by grouping and identities 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets
	3	AERO.HSAA.PR.2	Patterns, Functions and Algebra	Chapter 1: Polynomials and Algebraic Fractions Unit 3: Division of Polynomials <ul style="list-style-type: none"> • Monomial by Monomial • Polynomial by Monomial • Polynomial by Polynomial in one variable 	<ul style="list-style-type: none"> • Divide monomial by monomial • Divide polynomial by monomial using long division and factoring • Divide polynomial by polynomial using long division and factoring • Divide polynomial by polynomial with remainder using long division • Write the result in the form: $\frac{P(x)}{x-a} = Q(x) + \frac{R(x)}{x-a}$ 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets

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Sept.	4	AERO. 6.EE.3c AERO. 6.EE.4 AERO. 6.EE.6	Patterns, Functions and Algebra	Chapter 1: Polynomials and Algebraic Fractions Unit 4: Algebraic Fractions <ul style="list-style-type: none"> • Definitions (Relate it to fractions) • Fundamental properties of algebraic fractions • Combining algebraic fraction with common denominator • Addition and Subtraction of Algebraic Fractions • Multiplication and division of Algebraic Fractions • Simplify complex algebraic fractions • Value of an algebraic fraction 	<ul style="list-style-type: none"> • Simplify simple continued algebraic fractions • Use substitution to determine the value of a given algebraic fraction • Solve word problems involving algebraic fractions • Simplify simple continued algebraic fractions • Use substitution to determine the value of a given algebraic fraction • 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets

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Oct.	2		Patterns, Functions and Algebra	Chapter 1: Polynomials and Algebraic Fractions Comprehensive Project <ul style="list-style-type: none"> Comprehensive group project intended to demonstrate the students comprehensive understanding and functional knowledge of the material from Chapter 1. 	<ul style="list-style-type: none"> Students will demonstrate their functional knowledge of the material from Chapter 1. 	<ul style="list-style-type: none"> Comprehensive Group Project Preferred for the students to do the project outside of class and present their results to the class. 	<ul style="list-style-type: none"> Presentation of the Group Project to the class.
	2		Patterns, Functions and Algebra	Review for Midterm Exam	Chapter 1: Polynomials and Algebraic Fractions <ul style="list-style-type: none"> Unit 1: Multiplication of polynomials Unit 2: Factoring Unit 3: Division of Polynomials Unit 4: Algebraic Fractions 		
MIDTERM EXAM							

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Oct.	2	AERO.HSG. C.3 AERO.2.G.1 AERO. 3.G.1 AERO. 6.G.1	Geometry	Chapter 2: Quadrilaterals Unit 1: Introduction <ul style="list-style-type: none"> • Define a quadrilateral and convex quadrilateral • Sum of angles of a quadrilateral 	<ul style="list-style-type: none"> • Identify a quadrilateral and convex quadrilateral • Use the Sum of angles of a quadrilateral to find a missing angle measure • Identify points inside and outside of a quadrilateral • Calculate exterior angles 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets

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Nov.	3	AERO.1.G.2 AERO.HSG. CO.3	Geometry	<p>Chapter 2: Quadrilaterals</p> <p>Unit 2: Types of Quadrilaterals</p> <ul style="list-style-type: none"> • Trapezoids <ul style="list-style-type: none"> ○ Definitions ○ Right trapezoid ○ Isosceles trapezoid ○ Mid-segments of a triangle ○ Mid-segments of a trapezoid • Parallelogram • Rectangle • Rhombus • Square • Kite 	<ul style="list-style-type: none"> • Define and identify trapezoid, right and isosceles trapezoid • Construct the mid-segment of a trapezoid • Construct and identify parallelogram, rectangle, rhombus, square and kite • Show that all rectangles are parallelogram but not all parallelograms are rectangle 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets

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	2	AERO. 4.G.3	Geometry	Chapter 2: Quadrilaterals Unit 3: Symmetry <ul style="list-style-type: none"> • Axis of symmetry • Central symmetry • Symmetry of a given shape 	<ul style="list-style-type: none"> • Unit 4: Symmetry • Axis of symmetry • Central symmetry • Symmetry of a given shape 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets

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	4	AERO. 6.G.1 AERO. 7.G.4 AERO. 7.G.6	Geometry	Chapter 2: Quadrilaterals Unit 4: Area of Polygons <ul style="list-style-type: none"> • Define <ul style="list-style-type: none"> ○ Polygon ○ Convex polygon ○ Regular polygon ○ Sides and vertices • Area <ul style="list-style-type: none"> ○ Rectangles and Squares ○ Triangles ○ Trapezoids ○ Parallelogram ○ Rhombus ○ Trapezium ○ Kite ○ General Polygons 	<ul style="list-style-type: none"> • Define vertex and diagonal of a polygon • Given a polygon identify; <ul style="list-style-type: none"> ○ number of sides ○ number of diagonals ○ sum of the interior angles ○ number of triangles formed • Solve problems involving area 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets

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Dec.	2		Geometry	Chapter 2: Quadrilaterals Comprehensive Project Comprehensive group project intended to demonstrate the students comprehensive understanding and functional knowledge of the material from Chapter 2.	<ul style="list-style-type: none"> Students will demonstrate their functional knowledge of the material from Chapter 2. 	<ul style="list-style-type: none"> Comprehensive Group Project Preferred for the students to do the project outside of class and present their results to the class. 	<ul style="list-style-type: none"> Presentation of the Group Project to the class.
	2		Geometry	Review for Final Exam	Chapter 2: Quadrilaterals <ul style="list-style-type: none"> Unit 1: Introduction Unit 2: Types of Quadrilaterals Unit 3: Symmetry Unit 4: Area of Polygons 		
FINAL EXAM							

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Jan.	2	AERO.K.OA.1	Patterns, Functions and Algebra	<p>Chapter 3: Equations and Inequalities</p> <p>Unit 1: Introduction to equations</p> <ul style="list-style-type: none"> • Definition: $a(x + b) = c(x + d)$ • One solution: $3x + 2 = 2x + 1$ • No solutions: $3x + 2 = 3(x + 1)$ • Many solutions: $2x + 4 = 2(x + 2)$ • Solving first degree equations by <ul style="list-style-type: none"> ○ Collecting term ○ Reducing to $ax + b = 0$ 	<ul style="list-style-type: none"> • Determine the number of solutions a given equation has • Solve first degree equations in one variable 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets

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	3	AERO.1.OA.2	Patterns, Functions and Algebra	Chapter 3: Equations and Inequalities Unit 2: Solving Equations <ul style="list-style-type: none"> • Factoring • Variables in denominator • Setting up equations (Word problems) 	<ul style="list-style-type: none"> • Solve equations in one variable by factoring • Write an equation that represents a given problem • Solve life related problems 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets
Jan. - Feb.	2	AERO.6.EE.8	Patterns, Functions and Algebra	Chapter 3: Equations and Inequalities Unit 3: Introduction to Inequalities <ul style="list-style-type: none"> • Review of the real number line • Notation: $<$, $>$, \leq, \geq • Properties of inequalities <ul style="list-style-type: none"> ○ Multiplicative property ○ Additive property ○ Transitive property 	<ul style="list-style-type: none"> • Locate a number in the number line • Compare numbers using $>$, $<$, $=$ • Apply properties of inequalities in simplifying simple inequalities 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets

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Feb.	3	AERO.HSA.REI.11. AERO.HSF.1F.7	Patterns, Functions and Algebra	<p>Chapter 3: Equations and Inequalities</p> <p>Unit 4: Inequalities and absolute value</p> <ul style="list-style-type: none"> • Inequalities in one variable • Ways to represents solutions <ul style="list-style-type: none"> ○ $\{x x \geq \alpha\}$ ○ $x \geq \alpha$ ○ $x \leq \alpha$ ○ $x \in [\alpha, \infty)$ ○ $x \in (\alpha, \infty)$ ○ $x \in (-\infty, \alpha]$ ○ $x \in (-\infty, \alpha)$ ○ Drawn on the number line • Solving inequalities in one unknown • Define absolute value • Graphing absolute values (Comp Lab) • Solving equations 	<ul style="list-style-type: none"> • Solve inequalities in one variable • Represent the solution to linear inequality in 3 ways • Solve absolute value equations • Graph absolute value function (optional) 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets
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	2		Patterns, Functions and Algebra	<p>Chapter 3: Equations and Inequalities</p> <p>Comprehensive Project</p> <p>Comprehensive group project intended to demonstrate the students comprehensive understanding and functional knowledge of the material from Chapter 3.</p>	<ul style="list-style-type: none"> Students will demonstrate their functional knowledge of the material from Chapter 3. 	<ul style="list-style-type: none"> Comprehensive Group Project Preferred for the students to do the project outside of class and present their results to the class. 	<ul style="list-style-type: none"> Presentation of the Group Project to the class.
Mar.	2		Patterns, Functions and Algebra	<p>Review for Midterm Exam</p>	<ul style="list-style-type: none"> Chapter 3: Equations and Inequalities Unit 1: Introduction to equations Unit 2: Solving Equations Unit 3: Introduction to Inequalities Unit 4: Inequalities and absolute value 		
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Mar.	3	AERO. 7.G.2	Geometry	Chapter 4: Similar Triangles Unit 1: Thales' theorem <ul style="list-style-type: none"> • Statement and Proof of Thales' theorem • Converse of Thales' theorem • Corollary of the Thales' theorem 	<ul style="list-style-type: none"> • Construct triangles based on Thales' theorem • Prove conditional statements using Thales' theorem 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets
	2	AERO.HSG. CO.9	Geometry	Chapter 4: Similar Triangles Unit 2: Triangle Bisectors <ul style="list-style-type: none"> • Properties • Angle bisectors • Theorems 	<ul style="list-style-type: none"> • Construct the bisectors of the angles and sides of a triangle • Apply angle bisector theorems in problems involving triangles 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets

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	2	AERO. 8.EE.6	Geometry	<p>Chapter 4: Similar Triangles</p> <p>Unit 3: Similar Triangles</p> <ul style="list-style-type: none"> • Introduction • Define similar triangles • Application of Thales' theorem to similar triangles • Properties of similar triangles • Theorems on similar triangles • Similarity for right triangles • Theorems on similar right triangles 	<p>Unit 3: Similar Triangles</p> <ul style="list-style-type: none"> • Introduction • Define similar triangles • Application of Thales' theorem to similar triangles • Properties of similar triangles • Theorems on similar triangles • Similarity for right triangles • Theorems on similar right triangles 	<ul style="list-style-type: none"> • Group Work • Mini-Research Projects • Computer Projects • Worksheets 	<ul style="list-style-type: none"> • Group Presentations • Individual Presentations • Worksheets

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	2		Statistics and Probability	<p>Chapter 4: Similar Triangles</p> <p>Comprehensive Project</p> <p>Comprehensive group project intended to demonstrate the students comprehensive understanding and functional knowledge of the material from Chapter 4.</p>	<ul style="list-style-type: none"> Students will demonstrate their functional knowledge of the material from Chapter 4. 	<ul style="list-style-type: none"> Comprehensive Group Project Preferred for the students to do the project outside of class and present their results to the class. 	<ul style="list-style-type: none"> Presentation of the Group Project to the class.
Apr.	2		Statistics and Probability	<p>Review for Final Exam</p>	<p>Chapter 4: Similar Triangles</p> <ul style="list-style-type: none"> Unit 1: Thales' theorem Unit 2: Triangle Bisectors Unit 3: Similar Triangles 		
FINAL EXAM							