Wyoming Department of Education Required Virtual Education Course Syllabus

Natrona County School District # 1 Program Name Natrona Virtual Learning Conten Area MA NVA0380012 Course ID **Grade Level** 8 MTH08A Algebra **Course Name** o Credits 38001 SCE Code Curriculum Type K1 Inc

COURSE DESCRIPTION

K12's Math Sem. 1 Summit course prepares students for more advanced study in algebra as students solve linear equations and systems of equations, work with radical and integer exponents, gain conceptual understanding of functions, and use functions to model quantitative relationships. To prepare students for more advanced study in geometry, the course emphasizes the Pythagorean theorem and deepening exploration of similarity and congruence.

WYOMING CONTENT AND PERFORMANCE STANDARDS			
STANDARD#	BENCHMARK (Standard/Indicator) Use the Standards and Benchmarks as Spreadsheets		
7.EE.4a	Solve word problems leading to equations of the form px q r and p(x q) r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, The perimeter of rectangle is 5 cm. Its length is 6 cm. What is its width?		
7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)		
8.EE.1	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 3^{-3} 3^{-3} 3^{-3} $1/3^{-3}$ $1/2^{-3}$.		
8.EE.3	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as × 10^8 and the population of the world as 10^9, and determine that the world population is more than 20 times larger.		
8.EE.5	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-		
	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation =mx for a line through the origin and		
8.EE.6	the equation y = mx + b for a line intercepting the vertical axis at b. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, = a, or = b results		
8.EE.7a	(where a and b are different numbers).		
8.EE.7b	Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.		
8.EE.8a	Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.		

	Solve systems of two I	inear equations in two varia	bles algebraically, and estimate solutions by
	graphing the equations. Solve simple cases by inspection. For example, 3x 2y and 3x 2y		
8.EE.8b	have n solution because $3x + 2y$ cannot simultaneously be 5 and 6.		
	Understand that a function is a rule that assigns to each input exactly one output. The graph of a		
	function is the set of ord	lered pairs consisting of an i	nput and the corresponding output. (Function
8.F.1		notation is not requir	•
			ed in a different way (algebraically, graphically,
			xample, given a linear function represented by a
	table of values and a l	·	by an algebraic expression, determine which
8.F.2		function has the greate	
	_	_	r function, whose graph is a straight line; give
	-		nple, the function $A = s^2$ giving the area of a
0.50	square as a function of i	_	ecause its graph contains the points (1,1), (2,4)
8.F.3		and (3,9), which are not	
		•	petween two quantities. Determine the rate of
	_	•	otion of a relationship or from two (x, y) values,
8.F.4			nterpret the rate of change and initial value of a
0.Г.4			and in terms of its graph or a table of values. ween two quantities by analyzing graph (e.g.,
		•	r or nonlinear). Sketch a graph that exhibits the
8.F.5		<u>.</u>	at has been described verbally.
0.1.5	quantati	ve reacures or a function the	it has been described verbany.
	Describe the effect of d	ilations, translations, rotatio	ns and reflections on two-dimensional figures
8.G.3		using coordi	
			another if the second can be obtained from the
			ations, and dilations; given two similar two-
8.G.4			t exhibits the similarity between them.
	_		angle sum and exterior angle of triangles, about
	_	•	transversal, and the angle-angle criterion for
0.0.5	, ,		ies of the same triangle so that the three angles
8.G.5	appear to form	line, and give an argument	in terms of transversals why this is so.
		SCOPE AND SEQUENCE	
			OUTCOMES
	UNIT OUTLINE	STANDARD#	OBJECTIVES/STUDENT CENTERED GOALS
Ca	urse Introduction		
Co	uise iniiouuciion		
Rea	diness Checkpoint		
			Create and analyze data on a scatter plot.
	t 1: Linear Models		Determine if data plotted on a scatter plot have a
Lesso	n 1: Exchange Ideas		linear association.
			Create a two-way table to represent data. Create a
_	t 1: Linear Models		relative frequency table for a two-way table.
Lesson 2: Pa	atterns in Two-Way Tables		Compare two sets of relative frequency data and
			describe possible associations between the two

		sets.
Unit 1: Linear Models Lesson 3: Scatter Plots		Create a scatter plot using data in a table.
Unit 1: Linear Models Lesson 4: Clusters and Outliers	7.NS.3: Solve real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.); 7.EE.A.1: Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	Identify outliers and clusters on a scatter plot.
Unit 1: Linear Models Lesson 5: Associations in Scatter Plots	7.NS.3: Solve real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.); 7.EE.A.1: Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	Determine whether a scatter plot shows positive, negative, or no association. Determine whether a scatter plot shows a linear or nonlinear association.
Unit 1: Linear Models Lesson 6: Lines of Best Fit		Draw a trend line. Write the equation of a trend line.
Unit 1: Linear Models Lesson 7: Interpret Slopes and Intercepts	8.EE.1: Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 3^2 × 3^(-5) = 3^(-3) = 1/(3^3) = 1/27.	Analyze the equation of a trend line to summarize data or make predictions. Interpret the slope and y-intercept of a trend line.
Unit 1: Linear Models Lesson 8: Unit Review	8.EE.1: Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 3^2 × 3^(-5) = 3^(-3) = 1/(3^3) = 1/27.	
Unit 1: Linear Models Lesson 9: Unit Test	8.EE.1: Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 3^2 × 3^(-5) = 3^(-3) = 1/(3^3) = 1/27.	
Unit 1: Linear Models Lesson 10: Extended Problems	8.EE.3: Use numbers expressed in the form of a single digit times an integer power of 10	

	to estimate concluses an one	
	to estimate very large or very	
	small quantities, and to	
	express how many times as	
	much one is than the other.	
	For example, estimate the	
	population of the United	
	States as 3 × 10^8 and the	
	population of the world as 7 ×	
	10^9, and determine that the	
	world population is more than	
	20 times larger.;	
	8.EE.4: Perform operations	
	with numbers expressed in	
	scientific notation, including	
	problems where both decimal	
	and scientific notation are	
	used. Use scientific notation	
	and choose units of	
	appropriate size for	
	measurements of very large or	
	very small quantities (e.g., use	
	millimeters per year for	
	seafloor spreading). Interpret	
	scientific notation that has	
	been generated by technology.	
	7.EE.4a: Use variables to	
	represent quantities in a real-	
	world or mathematical	
	problem, and construct simple	
	equations and inequalities to	
	solve problems by reasoning	
	about the quantities. a. Solve	
	word problems leading to	
	equations of the form px + q =	
	r and $p(x + q) = r$, where p, q,	
	and r are specific rational	
	numbers. Solve equations of	
	these forms fluently. Compare	
Hait O. Basis Ossanstvia Obsassa	an algebraic solution to an	
Unit 2: Basic Geometric Shapes	arithmetic solution, identifying	
Lesson 1: Exchange Ideas	the sequence of the	
	operations used in each	
	approach. For example, The	
	perimeter of a rectangle is 54	
	cm. Its length is 6 cm. What is	
	its width?;	
	8.EE.7.b: Solve linear	
	equations in one variable. b.	
	Solve linear equations with	
	rational number coefficients,	Identify angle pairs as adjacent, a linear pair,
	including equations whose	vertical, adjacent but not a linear pair, or none of
	solutions require expanding	
	expressions using the	these.
	distributive property and	Find the measure of one angle in an angle pair
	collecting like terms.	when you know the measure of the other angle.
Unit 2: Pagio Coomatria Chanca		
Unit 2: Basic Geometric Shapes		
Lesson 2: Pairs of Angles		
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	7.EE.4a: Use variables to	
	represent quantities in a real-	
	world or mathematical	
	problem, and construct simple	
	equations and inequalities to	
	solve problems by reasoning	
	about the quantities. a. Solve	
	word problems leading to	
	equations of the form $px + q =$	
	r and $p(x + q) = r$, where p, q,	
	and r are specific rational	
	numbers. Solve equations of	
	these forms fluently. Compare	
Unit 2: Basic Geometric Shapes	an algebraic solution to an	
Lesson 3: Complementary and	arithmetic solution, identifying	
Supplementary Angles	the sequence of the	
Supplementary / trigics	operations used in each	
	approach. For example, The	
	perimeter of a rectangle is 54	
	cm. Its length is 6 cm. What is	
	its width?;	
	8.EE.7.b: Solve linear	
	equations in one variable. b.	
	Solve linear equations with	
	rational number coefficients,	
	•	Identify angle pairs as complementary,
	including equations whose	supplementary, or neither.
	solutions require expanding	Find the measure of one angle in an angle pair
	expressions using the	
	distributive property and	when you know the measure of the other angle.
	collecting like terms.	Write and solve angle equations.
	7.EE.4a: Use variables to	
	represent quantities in a real-	
	world or mathematical	
	problem, and construct simple	
	equations and inequalities to	
	solve problems by reasoning	
	about the quantities. a. Solve	
	word problems leading to	
	equations of the form px + q =	
Unit 2: Basic Geometric Shapes	r and $p(x + q) = r$, where p, q,	
Lesson 4: Two Lines and Transversals	and r are specific rational	
32 333 333 333 333 333	numbers. Solve equations of	
	these forms fluently. Compare	
	an algebraic solution to an	
	arithmetic solution, identifying	
	the sequence of the	
	operations used in each	
	approach. For example, The	
	perimeter of a rectangle is 54	
	cm. Its length is 6 cm. What is	Identify the angle pairs formed by lines and
	its width?	transversals.
	7.EE.4a: Use variables to	
	represent quantities in a real-	
	world or mathematical	
Linit O. Dania O. Con Cir Observe	problem, and construct simple	Make a conjecture about the angle pairs formed
Unit 2: Basic Geometric Shapes	equations and inequalities to	when parallel lines are intersected by a
Lesson 5: Parallel Lines and Transversals	solve problems by reasoning	transversal.
	about the quantities. a. Solve	
	word problems leading to	Find the measure of one angle in an angle pair
	equations of the form px + q =	formed by parallel lines and a transversal when
	r and $p(x + q) = r$, where p , q ,	you know the measure of the other angle.
	1, 1, ,	,

	and r are specific rational	
	numbers. Solve equations of	
	these forms fluently. Compare	
	an algebraic solution to an	
	arithmetic solution, identifying	
	the sequence of the	
	operations used in each	
	approach. For example, The	
	perimeter of a rectangle is 54	
	cm. Its length is 6 cm. What is	
	its width?	
Unit 2: Basic Geometric Shapes Lesson 6: Your Choice		
	8.EE.7.b: Solve linear	
	equations in one variable. b.	
	Solve linear equations with	
Heli O. Berle Organistic Observa	rational number coefficients,	
Unit 2: Basic Geometric Shapes	including equations whose	
Lesson 7: Triangles	solutions require expanding	
	expressions using the	Classify a triangle by its angle measures.
	distributive property and	Use equations to find missing angle measures in
	collecting like terms.	triangles.
	8.EE.7.b: Solve linear	
	equations in one variable. b.	
	Solve linear equations with	
Hait O. Dania Commetria Channa	rational number coefficients,	
Unit 2: Basic Geometric Shapes	including equations whose	
Lesson 8: Angles of a Triangle	solutions require expanding	
	expressions using the	Understand why the sum of the measures of the
	distributive property and	angles of a triangle is the same as the measure of a
	collecting like terms.	straight angle.
		Understand why the measure of an exterior angle
Unit 2: Basic Geometric Shapes		of a triangle is equal to the sum of the measures of
Lesson 9: Exterior Angles of a Triangle		the two nonadjacent interior angles.
2000011 0. Exterior 7 trigiod of a Triangle		Find missing angle measures of a triangle.
	Q FF 7 as Calva linear agustions	Tillu Illissilig aligie illeasures of a trialigie.
	8.EE.7.a: Solve linear equations	
	in one variable. a. Give	
	examples of linear equations in	
	one variable with one solution,	
	infinitely many solutions, or no solutions. Show which of these	
	possibilities is the case by successively transforming the	
	•	
	given equation into simpler	
Unit 2: Docio Coometrio Change	forms, until an equivalent	
Unit 2: Basic Geometric Shapes	equation of the form x = a, a =	
Lesson 10: Polygons	a, or a = b results (where a and	
	b are different numbers).;	
	8.EE.7.b: Solve linear	
	equations in one variable. b.	
	Solve linear equations with	Determine whether a figure is a polygon.
	rational number coefficients,	Classify a polygon by its number of sides.
	including equations whose	Classify a polygon as regular, equiangular,
	solutions require expanding	equilateral, or none of these.
	expressions using the	•
	distributive property and	Use equations to find polygon angle measures and
	collecting like terms.	side lengths.

Unit 2: Basic Geometric Shapes Lesson 11: Unit Review	8.EE.7.a: Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers).; 8.EE.7.b: Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and	
Unit 2: Basic Geometric Shapes Lesson 12: Unit Test	collecting like terms. 8.EE.7.b: Solve linear equations in one variable. b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	
Unit 2: Basic Geometric ShapesLesson 13: Extended Problems		
Interim Checkpoint 3		
Your Choice		
Unit 3: Volume Lesson 1: Exchange Ideas		Determine the volume of a cylinder.
Unit 3: Volume Lesson 2: Volumes of Cylinders		
Unit 3: Volume Lesson 3: Applications of Cylinders	8.EE.6: Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.	Solve real-world problems involving the volume of a cylinder.
Unit 3: Volume Lesson 4: Volumes of Cones	8.EE.5: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different	Derive the formula for the volume of a cone. Find the volume of a cone.

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	proportional relationships	
	represented in different ways.	
	For example, compare a	
	distance-time graph to a	
	distance-time equation to	
	determine which of two	
	moving objects has greater	
	speed.	
	8.EE.6: Use similar triangles to	
	explain why the slope m is the	
	same between any two distinct	
	points on a non-vertical line in	
Unit 3: Volume	the coordinate plane; derive	
Lesson 5: Applications of Cones	the equation y = mx for a line	
	through the origin and the	
	equation y = mx + b for a line	
	intercepting the vertical axis at	Solve real-world problems involving the volume of
	b.	a cone.
Linit 2: Valuma		Derive the formula for the volume of a sphere.
Unit 3: Volume		Derive the formula for the volume of a sphere.
Lesson 6: Volume of Spheres		Find the volume of a sphere.
	8.EE.6: Use similar triangles to	
	explain why the slope m is the	
	same between any two distinct	
	points on a non-vertical line in	
Unit 3: Volume	the coordinate plane; derive	
Lesson 7: Applications of Spheres	the equation y = mx for a line	
Lesson 7. Applications of opheres	through the origin and the	
	equation y = mx + b for a line	
	intercepting the vertical axis at	Solve real-world problems involving the volume of
	b.	a sphere.
	8.EE.6: Use similar triangles to	
	explain why the slope m is the	
	same between any two distinct	
	points on a non-vertical line in	
Unit 3: Volume	the coordinate plane; derive	
Lesson 8: Volumes of Composite Figures	the equation y = mx for a line	
2000011 0. Volumes of Composite Figures	through the origin and the	
	equation y = mx + b for a line	
	intercepting the vertical axis at	
	b.	Find the volume of a composite solid.
	8.EE.6: Use similar triangles to	This the volume of a composite sona.
	explain why the slope m is the	
	same between any two distinct	
	points on a non-vertical line in	
Unit 3: Volume	the coordinate plane; derive	
Lesson 9: Unit Review	the equation y = mx for a line	
Legger of Office (Covice)	through the origin and the	
	equation y = mx + b for a line	
	intercepting the vertical axis at	
	b.	
	8.EE.5: Graph proportional	
	relationships, interpreting the	
	unit rate as the slope of the	
	graph. Compare two different	
Unit 3: Volume	proportional relationships	
Lesson 10: Unit Test	represented in different ways.	
ECOSON TO. OTHE 165E	For example, compare a	
	distance-time graph to a	
	distance-time equation to	
	determine which of two	
	determine which or two	

	moving objects has greater	
	speed.; 8.EE.6: Use similar	
	triangles to explain why the	
	slope m is the same between	
	any two distinct points on a	
	non-vertical line in the	
	coordinate plane; derive the	
	equation y = mx for a line	
	through the origin and the	
	equation $y = mx + b$ for a line	
	intercepting the vertical axis at	
	b.	
	8.EE.5: Graph proportional	
	relationships, interpreting the	
	unit rate as the slope of the	
	graph. Compare two different	
	proportional relationships	
Unit 3: Volume	represented in different ways.	
Lesson 11: Extended Problems: Volume	For example, compare a	
Lesson 11. Extended Floblenis. Volume	distance-time graph to a	
	distance-time equation to	
	determine which of two	
	moving objects has greater	
	speed.; 8.EE.7: Solve linear	
	equations in one variable.	
Unit 4: Transformations, Congruence, and		
Similarity		Describe a sequence of transformations that
Lesson 1: Exchange Ideas		demonstrates how two figures are congruent.
	8.F.4: Construct a function to	
	model a linear relationship	
	between two quantities.	
	Determine the rate of change	
	and initial value of the function	
Hait A. Tanadamatiana Canamana and	from a description of a	
Unit 4: Transformations, Congruence, and	relationship or from two (x, y)	
Similarity	values, including reading these	
Lesson 2: Transformations	from a table or from a graph. Interpret the rate of change	
	and initial value of a linear	
	function in terms of the	
	situation it models, and in	
	terms of its graph or a table of	Classify a transformation as a rotation, a reflection,
	values.	or a translation.
	8.F.4: Construct a function to	or a translation.
	model a linear relationship	
	between two quantities.	
	Determine the rate of change	
	and initial value of the function	
Hell A. Tressels	from a description of a	
Unit 4: Transformations, Congruence, and	relationship or from two (x, y)	
Similarity	values, including reading these	
Lesson 3: Corresponding Parts of	from a table or from a graph.	
Transformed Figures	Interpret the rate of change	
	and initial value of a linear	
	function in terms of the	
	situation it models, and in	
	terms of its graph or a table of	Identify corresponding parts of transformed
	values.	figures.
Unit 4: Transformations, Congruence, and	8.F.4: Construct a function to	
Similarity	model a linear relationship	
Lesson 4: Congruence	between two quantities.	Identify a sequence of transformations.
	,	,

	Determine the rate of change	
	and initial value of the function	
	from a description of a relationship or from two (x, y)	
	values, including reading these	
	from a table or from a graph.	
	Interpret the rate of change	
	and initial value of a linear	
	function in terms of the	
	situation it models, and in	
	terms of its graph or a table of	
Hait A. Tanasfarastiana Canamana and	values.	
Unit 4: Transformations, Congruence, and Similarity		
Lesson 5: Sequences of Rigid		
Transformations		
Transformations	8.F.4: Construct a function to	
	model a linear relationship	
	between two quantities.	
	Determine the rate of change	
	and initial value of the function	
Unit 4: Transformations, Congruence, and	from a description of a	
Similarity	relationship or from two (x, y)	
Lesson 6: Properties of Rigid	values, including reading these from a table or from a graph.	
Transformations	Interpret the rate of change	
	and initial value of a linear	
	function in terms of the	
	situation it models, and in	
	terms of its graph or a table of	Describe the relationship between the pre-image
	values.	and image in a sequence of transformations.
	8.F.5: Describe qualitatively	
	the functional relationship	
Unit 4: Transformations, Congruence, and	between two quantities by	
Similarity	analyzing a graph (e.g., where the function is increasing or	
Lesson 7: Rigid Transformations and the	decreasing, linear or	
Coordinate Plane	nonlinear). Sketch a graph that	
	exhibits the qualitative	
	features of a function that has	Determine the coordinates of an image after a
	been described verbally.	transformation.
		Describe a translation given the coordinates of the
Unit 4: Transformations, Congruence, and		pre-image and image figures.
Similarity		Describe a reflection given the coordinates of the
Lesson 8: Rigid Transformation Mapping		pre-image and image figures
Rules		Describe a rotation given the coordinates of the
		pre-image and image figures.
Unit 4: Transformations, Congruence, and		Identify the image of a dilation.
Similarity		Determine the scale factor used in a dilation.
Lesson 9: Dilations		Use the scale factor to classify a dilation as a
		reduction or an enlargement.
Unit 4: Transformations, Congruence, and		Determine whether two polygons are similar.
Similarity		Write similarity statements for similar polygons.
Lesson 10: Similarity		Find missing measures in similar polygons.
	8.G.4: Understand that a two-	Determine the scale factor in similar polygons.
Unit 4: Transformations, Congruence, and	dimensional figure is similar to	Determine whether a scale factor represents a
Similarity	another if the second can be	reduction or an enlargement.
Lesson 11: Similarity and Scale	obtained from the first by a	Determine the length of corresponding parts of
	sequence of rotations,	similar figures.

	unflantings translations	
	reflections, translations, and dilations; given two similar	
	two-dimensional figures,	
	describe a sequence that	
	exhibits the similarity between them.	
Unit 4: Transformations, Congruence, and	them.	
Similarity		
Lesson 12: Your Choice		
Unit 4: Transformations, Congruence, and	8.G.3: Describe the effect of	Determine the coordinates of an image after a
Similarity	dilations, translations, rotations and reflections on	dilation.
Lesson 13: Dilations and the Coordinate	two-dimensional figures using	Describe the dilation that occured when given the
Plane	coordinates.	coordinates of the pre-image and image.
	8.G.4: Understand that a two-	
	dimensional figure is similar to	
	another if the second can be obtained from the first by a	
Unit 4: Transformations, Congruence, and	sequence of rotations,	
Similarity Lesson 14: Sequences of Transformations	reflections, translations, and	Describe a coguence of transformations that
and Dilations	dilations; given two similar	Describe a sequence of transformations that results in a pre-image and image that are similar.
and Dilations	two-dimensional figures,	Determine whether a sequence of transformations
	describe a sequence that exhibits the similarity between	results in figures that are congruent or in figures
	them.	that are similar.
	8.G.5: Use informal arguments	
	to establish facts about the	
	angle sum and exterior angle of triangles, about the angles	
	created when parallel lines are	
Unit 4: Transformations, Congruence, and	cut by a transversal, and the	
Similarity	angle-angle criterion for	
Lesson 15: The AA Criterion	similarity of triangles. For	
	example, arrange three copies of the same triangle so that	
	the three angles appear to	
	form a line, and give an	
	argument in terms of	Use the angle-angle criterion to determine
Unit 4: Transformations, Congruence, and	transversals why this is so.	whether triangles are similar.
Similarity		
Lesson 16: Unit Review		
Unit 4: Transformations, Congruence, and		
Similarity		
Lesson 17: Unit Test		
Unit 4: Statistics		
Lesson 18: Extended Problems: Statistics		
Interim Checkpoint 4		
Your Choice		
Tour Choice		
Unit 5: Irrational Numbers		
Lesson 1: Exchange Ideas		Determine the subsets of the real numbers to
Ecocon 1. Exchange racas		which a given number belongs.
Unit 5: Irrational Numbers	8.EE.8.a: Analyze and solve	Convert a rational number to a terminating
Lesson 2: Rational Numbers	pairs of simultaneous linear equations.a. Understand that	decimal.
	equations.a. Onucistana tilat	accimal.

	solutions to a system of two	Convert a rational number to a repeating decimal.
	linear equations in two	Classify a rational number as a terminating decimal
	variables correspond to points	
	of intersection of their graphs,	or a repeating decimal.
	because points of intersection	
	satisfy both equations	
	simultaneously.	
	8.EE.8.a: Analyze and solve	
	pairs of simultaneous linear	
	equations. a. Understand that	
	•	
	solutions to a system of two	
	linear equations in two	
	variables correspond to points	
	of intersection of their graphs,	
	because points of intersection	
	satisfy both equations	
	simultaneously.; 8.EE.8.b:	
	Analyze and solve pairs of	
	simultaneous linear equations.	
	b. Solve systems of two linear	
	equations in two variables	
	algebraically, and estimate	
Unit 5: Irrational Numbers	solutions by graphing the	
Lesson 3: Terminating and Repeating	equations. Solve simple cases	
Numbers	by inspection. For example, 3x	
	+ 2y = 5 and 3x + 2y have	
	no solution because 3x + 2y	
	cannot simultaneously be 5	
	and 6.; 8.EE.8.c: Analyze and	
	solve pairs of simultaneous	
	linear equations. c. Solve real-	
	world and mathematical	
	problems leading to two linear	
	equations in two variables. For	
	example, given coordinates for	
	two pairs of points, determine	
	whether the line through the	
	first pair of points intersects	Convert a terminating decimal to a rational
	the line through the second	number.
	pair.	Convert a repeating decimal to a rational number.
	· · · · · · · · · · · · · · · · · · ·	content a repeating accomanto a rational number.
	8.EE.8.a: Analyze and solve	
	pairs of simultaneous linear	
	equations. a. Understand that	
	solutions to a system of two	
	linear equations in two	
	variables correspond to points	
	of intersection of their graphs,	
	because points of intersection	
	satisfy both equations	
Unit 5: Irrational Numbers	simultaneously.; 8.EE.8.b:	
Lesson 4: Understand Irrational Numbers	Analyze and solve pairs of	
200001 T. Onderotand mational Numbers	simultaneous linear equations.	
	b. Solve systems of two linear	
	equations in two variables	
	algebraically, and estimate	
	solutions by graphing the	
	equations. Solve simple cases	Find weeks of words
	by inspection. For example, 3x	Find roots of perfect squares.
	+ 2y = 5 and $3x + 2y$ have	Classify a number as rational or irrational.
	no solution because 3x + 2y	Identify the subsets of real numbers to which a
	110 Solution because 5x + 2y	racinary the subsets of real fluinders to which a

	and C. O.F. O. a. A. all and I	
	and 6.; 8.EE.8.c: Analyze and	
	solve pairs of simultaneous	
	linear equations. c. Solve real-	
	world and mathematical	
	problems leading to two linear	
	equations in two variables. For	
	example, given coordinates for	
	two pairs of points, determine	
	whether the line through the	
	first pair of points intersects	
	the line through the second	
	pair.	
	·	Approximate the value of an expression containing
		an irrational number.
Unit 5: Irrational Numbers		
Lesson 5: Approximations of Irrationals		Graph irrational numbers on a number line.
		Use approximations to compare irrational
		numbers.
	8.EE.8.b: Analyze and solve	
	pairs of simultaneous linear	
	equations. b. Solve systems of	
	two linear equations in two	
	variables algebraically, and	
	estimate solutions by graphing	
	the equations. Solve simple	
	cases by inspection. For	
	example, $3x + 2y = 5$ and $3x +$	
	2y = 6 have no solution	
Unit 5: Irrational Numbers	because 3x + 2y cannot	
Lesson 6: Evaluate Square Roots and Cube	simultaneously be 5 and 6.;	
Roots	8.EE.8.c: Analyze and solve	
10003	pairs of simultaneous linear	
	•	
	equations. c. Solve real-world	
	and mathematical problems	
	leading to two linear equations	
	in two variables. For example,	
	given coordinates for two pairs	
	of points, determine whether	
	the line through the first pair	Find roots of perfect squares
	of points intersects the line	Find roots of perfect squares.
	through the second pair.	Find roots of perfect cubes.
	8.EE.8.b: Analyze and solve	
	pairs of simultaneous linear	
	equations. b. Solve systems of	
	two linear equations in two	
	variables algebraically, and	
	estimate solutions by graphing	
	the equations. Solve simple	
	cases by inspection. For	
	example, $3x + 2y = 5$ and $3x +$	
Unit 5: Irrational Numbers	2y = 6 have no solution	
Lesson 7: Use Square Roots to Solve	because 3x + 2y cannot	
Equations	simultaneously be 5 and 6.;	
·	8.EE.8.c: Analyze and solve	
	pairs of simultaneous linear	
	equations. c. Solve real-world	
	and mathematical problems	
	leading to two linear equations	
	in two variables. For example,	
	given coordinates for two pairs	
	of points, determine whether	
	the line through the first pair	Solve square root equations.
	the line through the first pall	Joive square root equations.

	of points intersects the line	
	through the second pair.	
Unit 5: Irrational Numbers		
Lesson 8: Use Cube Roots to Solve		
Equations		Solve cube root equations.
	8.EE.8.b: Analyze and solve	
	pairs of simultaneous linear	
	equations. b. Solve systems of	
	two linear equations in two	
	variables algebraically, and	
	estimate solutions by graphing	
	the equations. Solve simple	
	cases by inspection. For	
	example, 3x + 2y = 5 and 3x +	
	2y = 6 have no solution	
	because 3x + 2y cannot	
Unit 5: Irrational Numbers	simultaneously be 5 and 6.;	
Lesson 9: Unit Review	8.EE.8.c: Analyze and solve	
	pairs of simultaneous linear	
	equations. c. Solve real-world	
	and mathematical problems	
	leading to two linear equations	
	in two variables. For example,	
	given coordinates for two pairs	
	of points, determine whether	
	the line through the first pair	
	of points intersects the line	
	through the second pair.	
Unit 5: Irrational Numbers		
Lesson 10: Unit Test		
Unit 5: Irrational Numbers		
Lesson 11: Extended Problems		
2000011 TH Externation From the		
Unit 6: The Pythagorean Theorem		
Lesson 1: Exchange Ideas		Determine an unknown side length of a right
Lesson 1. Exchange lacas		triangle using the Pythagorean theorem.
	8.F.1: Understand that a	
	function is a rule that assigns	
	to each input exactly one	
	output. The graph of a	
	function is the set of ordered	
	pairs consisting of an input and	
	the corresponding output.	
	(Function notation is not	
	required for Grade 8.); 8.F.4:	
	Construct a function to model	
Unit 6: The Pythagorean Theorem	a linear relationship between	
Lesson 2: Use the Pythagorean Theorem	two quantities. Determine the	
,	rate of change and initial value	
	of the function from a	
	description of a relationship or	
	from two (x, y) values,	
	including reading these from a	
	table or from a graph.	
	Interpret the rate of change	
	and initial value of a linear	
	function in terms of the	Use the converse of the Pythagorean theorem to
	situation it models, and in	determine whether a triangle is a right triangle.
	Situation it models, and in	determine whether a triangle is a right triangle.

	have a filter and the filter	
	terms of its graph or a table of	
	values.	
Linit C. The Duth anguer Theorem		
Unit 6: The Pythagorean Theorem		
Lesson 3: Converse of the Pythagorean		
Theorem		
Unit 6: The Pythagorean Theorem		Daniel the Dethermone the const
Lesson 4: Prove the Pythagorean Theorem		Prove the Pythagorean theorem.
, ,		Prove the converse of the Pythagorean theorem.
	8.F.1: Understand that a	
	function is a rule that assigns	
	to each input exactly one	
	output. The graph of a function is the set of ordered	
	pairs consisting of an input and	
	the corresponding output.	
	(Function notation is not	
	required for Grade 8.); 8.F.4:	
	Construct a function to model	
LIST OF THE D. H. C. C. C. Th. C. C. C.	a linear relationship between	
Unit 6: The Pythagorean Theorem	two quantities. Determine the	
Lesson 5: Distances in the Coordinate	rate of change and initial value	
Plane	of the function from a	
	description of a relationship or	
	from two (x, y) values,	
	including reading these from a	
	table or from a graph.	
	Interpret the rate of change	
	and initial value of a linear	Use the Pythagorean theorem to find the length of
	function in terms of the	a segment.
	situation it models, and in	Use the Pythagorean theorem to determine the
	terms of its graph or a table of values.	third vertex of a right triangle.
	8.F.4: Construct a function to	till a vertex of a right triangle.
	model a linear relationship	
	between two quantities.	
	Determine the rate of change	
	and initial value of the function	
	from a description of a	
Linit C. The Dutherson Theorem	relationship or from two (x, y)	
Unit 6: The Pythagorean Theorem Lesson 6: Your Choice	values, including reading these	
Lesson of Your Choice	from a table or from a graph.	
	Interpret the rate of change	
	and initial value of a linear	
	function in terms of the	
Unit 6: The Pythagorean Theorem	situation it models, and in	
	terms of its graph or a table of	
	values.	
	8.F.4: Construct a function to	
	model a linear relationship	
	between two quantities. Determine the rate of change	
	and initial value of the function	
	from a description of a	
Lesson 7: Applications of the Pythagorean	relationship or from two (x, y)	
Theorem	values, including reading these	
	from a table or from a graph.	
	Interpret the rate of change	
	and initial value of a linear	
	function in terms of the	Use the Pythagorean theorem to solve real-world
	situation it models, and in	problems.

	torms of its graph or a table of	
	terms of its graph or a table of values.	
	values.	
Unit 6: The Pythagorean TheoremLesson 8: Pythagorean Theorem in 3-D	8.F.3: Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s^2 giving the area of a square as function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line. 8.F.2: Compare properties of two functions each represented in a different way	Use the Pythagorean theorem to find lengths in three-dimensional figures.
Unit 6: The Pythagorean Theorem Lesson 9: More Pythagorean Applications	(algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.	Use the Pythagorean theorem to find lengths in two-dimensional figures.
Unit 6: The Pythagorean Theorem Lesson 10: Unit Review		
Unit 6: The Pythagorean Theorem Lesson 11: Unit Test	8.F.5: Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	
Unit 6: The Pythagorean Theorem Lesson 12: Extended Problems	8.F.5: Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	
Unit 7: Project: Climate Statistics Lesson 1: Select Your City and Features		Create and analyze a scatter plot. Determine whether data plotted on a scatter plot have a linear association and assess the fit of the straight line. Determine a trend line and its equation to approximate the linear relationship. Interpret the slope and y-intercept of the trend line in the context of the collected data.

Unit 7: Project: Climate Statistics Lesson 2: Describe the Units of Measure	Create and analyze a scatter plot. Determine whether data plotted on a scatter plot have a linear association and assess the fit of the straight line. Determine a trend line and its equation to approximate the linear relationship. Interpret the slope and y-intercept of the trend line in the context of the collected data.
Unit 7: Project: Climate Statistics Lesson 3: Construct a Scatter Plot	Create and analyze a scatter plot. Determine whether data plotted on a scatter plot have a linear association and assess the fit of the straight line. Determine a trend line and its equation to approximate the linear relationship. Interpret the slope and y-intercept of the trend line in the context of the collected data.
Unit 7: Project: Climate Statistics Lesson 4: Create a Linear Model	Create and analyze a scatter plot. Determine whether data plotted on a scatter plot have a linear association and assess the fit of the straight line. Determine a trend line and its equation to approximate the linear relationship. Interpret the slope and y-intercept of the trend line in the context of the collected data.
Unit 7: Project: Climate Statistics Lesson 5: What Did You Learn About Climate Statistics?	Create and analyze a scatter plot. Determine whether data plotted on a scatter plot have a linear association and assess the fit of the straight line. Determine a trend line and its equation to approximate the linear relationship. Interpret the slope and y-intercept of the trend line in the context of the collected data.
Unit 8: Grade 8 Semester A and B Assessments Lesson 1: Semester A Test, Parts 1 and 2	

Unit 8: Grade 8 Semester A and B Assessments Lesson 2: Your Choice	
Unit 8: Grade 8 Semester A and B Assessments	
Lesson 3: Semester B Test, Parts 1 and 2 Unit 8: Grade 7 Semester A and B	
Assessments	
Lesson 4: Your Choice	