High School - Circles

Essential Questions:

1. Why are geometry and geometric figures relevant and important?
2. How can geometric ideas be communicated using a variety of representations?
******(i.e maps, grids, charts, spreadsheets)
3. How can geometry be used to solve problems about real-world situations, spatial relationships, and logical reasoning?

Essential Vocabulary – inscribed angles, radii, chords, central angles, circumscribed angles, diameter, perpendicular, tangent, inscribed, circumscribed, quadrilateral, tangent line, arc length, radian measure, constant proportionality, area of a sector

HS.G-C.1: Prove that all circles are similar.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. circle, similarity	1. that all circles are similar	1. prove that all circles are similar

HS.G-C.2: Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.*

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. inscribed angles, radii, chords, tangent, central angles, circumscribed angles, perpendicular, diameter, right angles	1. that central, inscribed, and circumscribed angles are related. 2. that angles inscribed on a diameter are right angles 3. that the radius and the tangent to a circle are perpendicular 4. that relationships exist between inscribed, central, and circumscribed angles and their intercepted arcs	1. identify the radius, diameter, and tangent of a circle 2. identify central angles, inscribed angles, and circumscribed angles 3. describe the relationship between radii and central angles 4. describe the relationship between chords and inscribed angles

DRAFT

HS.G-C.3: Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.		
Geometry Enduring Understandings		
Students will know… 1. inscribed triangle, circumscribed triangle, inscribed quadrilateral	***Students will understand…*** 1. that there is a difference between inscribed and circumscribed triangles/quadrilaterals.	***Students will be able to…*** 1. determine the difference between inscribed and circumscribed triangles/quadrilaterals 2. construct inscribed and circumscribed circles with triangles and quadrilaterals 3. prove properties of angles in quadrilaterals inscribed in a circle.
HS.G-C.4: (+) Construct a tangent line from a point outside a given circle to the circle.		
Geometry Enduring Understandings		
Students will know… 1. tangent line, point, circle	***Students will understand…*** 1. that a tangent to a circle intersects the circle at exactly one point	***Students will be able to…*** 1. construct a tangent line from a point outside a given circle to the circle.
HS.G-C.5: Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.		
Geometry Enduring Understandings		
Students will know… 1. arc length, intercepted arc, radian measure, radius, constant proportionality, area of a sector, circumference	***Students will understand…*** 1. that the measure of a central is used to find the arc length and the area of the sector. 2. that the area of a sector of a circle is a portion of the area of the total circle 3. that the arc length of a circle is a portion of the circumference of the circle. 4. that angles can be measured in degrees or radians	***Students will be able to…*** 1. derive the formula for area of a sector 2. derive the proportionality between arc length and radius 3. define the radian measure as a constant of proportionality

DRAFT

High School - Congruence

Essential Questions:

1. Why are geometry and geometric figures relevant and important?
2. How can geometric ideas be communicated using a variety of representations?

*******(i.e maps, grids, charts, spreadsheets)

3. How can geometry be used to solve problems about real-world situations, spatial relationships, and logical reasoning?

Essential Vocabulary – angle, circle, perpendicular line, parallel line, and line segment, rotation, reflection, translation, rigid transformation, non-rigid transformation, dilation, rotation, reflection, line of reflection, symmetry, congruence, rigid motion, corresponding parts, rigid motion, triangle, corresponding, biconditional statement, triangle congruence, ASA, SAS, SSS, theorem, vertical angles, transversal, alternate interior angles, corresponding angles, perpendicular bisector, equidistant, triangle, interior angles, base angles, isosceles triangles, midpoint, median of a triangle, parallelogram, diagonal, construction, compass, straightedge, equilateral triangle, square, regular hexagon, circle

HS.G-CO.1: Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. point, line, distance on a line, distance around a circular arc, angle, circle, perpendicular line, parallel line, and line segment.	1. that the undefined notions of point, line, distance along a line, and distance around a circular arc relate to the definitions of angle, circle, perpendicular line, parallel line, and line segment.	1. define angle, circle, perpendicular line, parallel line, and line segment.

HS.G-CO.2: Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. transformations, functions, points, planes, distance, angle, translation, horizontal stretch, inputs, outputs, rigid transformation, non-rigid transformation	1. that transformations can be made by changing coordinate points 2. that rigid transformations preserve the distance between coordinates and the measure of angles 3. that non-rigid transformations change the distance between coordinates but angle measures are preserved	1. create transformations using a variety of media 2. transform coordinate points as functions 3. determine the difference between rigid and non-rigid transformations

DRAFT

HS.G-CO.3: Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. rectangle, parallelogram, trapezoid, regular polygon, rotations, reflections	1. that a figure can be rotated and reflected to carry on it to itself	1. identify the degree of rotational symmetry and all lines of reflectional symmetry.

HS.G-CO.4: Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. rotations, reflections, translations, angles, circles, perpendicular lines, parallel lines, line segments	1. that rotations, reflections, and translations on angles, circles, perpendicular lines, parallel lines, and line segments are rigid transformations	1. develop definitions of rigid transformations using the appropriate basic geometry terms

HS.G-CO.5: Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. geometric figure, rotation, reflection, translation, transformed figure, graph paper, tracing paper, geometry software, sequence, transformations, figure	1. that when geometric figures are rotated, reflected, or translated the resulting figure is congruent	1. draw multistep transformations 2. explain the types of transformations 3. use a variety of methods to rotate, reflect, or translate figures

HS.G-CO.6: Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. congruence, rigid motion, transform, figures	1. that when rigid motions are used to transform geometric figures the resulting figure is congruent	1. compare figures to determine congruence 2. use transformations on a single figure to find corresponding parts and congruence

DRAFT

HS.G-CO.7: Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. congruence, rigid motions, triangle, corresponding pairs of sides, corresponding pairs of angles	1. that when rigid motion is used to transform a triangle, the resulting triangle is congruent	1. define congruence in terms of rigid motion 2. show that two triangles are congruent

HS.G-CO.8: Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. triangle congruence, ASA, SAS, SSS, rigid motions	1. that there exists certain criteria for triangle congruency	1. how to prove triangles congruent using ASA, SAS, and SSS

HS.G-CO.9: Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. theorems, lines, angles, vertical angles, transversal, parallel lines, alternate interior angles, corresponding angles, perpendicular bisector, equidistant, segment, endpoints	1. that there exists a relationship between parallel lines cut by a transversal and the angles formed 2. that there exists a relationship between intersecting lines and the angles formed 3. that points on a perpendicular bisector of a line segment are equidistant from the endpoints of the segment	1. use congruence to prove theorems about lines and angles

DRAFT

HS.G-CO.10: Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. theorems, triangle, interior angles, base angles, isosceles triangles, midpoints, median of a triangle, congruence, segment, parallel, length, point	1. that the measures of the interior angles of a triangle sum to 180 degrees 2. that the base angles of an isosceles triangle are congruent 3. that the segment joining the midpoints of two sides of a triangle is parallel to the third side 4. that the segment joining the midpoints of two sides of a triangle is half the third side 5. that the medians of a triangle meet at a common point	1. use congruence to prove theorems about triangles

HS.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 conversely, rectangles are parallelograms with congruent diagonals.*

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. theorems, parallelograms, opposite sides, opposite angles, diagonals, congruence, bisect, converse, rectangles	1. that opposite sides of a parallelogram are congruent 2. that opposite angles of a parallelogram are congruent 3. that the diagonals of a parallelogram bisect each other	1. use congruence to prove theorems about parallelograms

HS.G-CO.12: Make formal geometric constructions, including those representing Montana American Indians, with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting and angle; constructing perpendicular lines; including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.*

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. constructions, compass, straightedge, reflective devices, geometric software, segment, angle, bisect, perpendicular lines, perpendicular bisector, parallel, point, line	1. that geometric figures can constructed using a variety of tools and method	1. complete a variety of geometric constructions in multiple ways

DRAFT

HS.G-CO.13: Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.		
Geometry Enduring Understandings		
Students will know…	***Students will understand…***	***Students will be able to…***
1. equilateral triangle, square, regular hexagon, inscribed, circle	1. that equilateral triangles, squares, and regular hexagons can be inscribed in circle	1. construct basic regular polygons inscribed in a circle

DRAFT

High School – Geometric Measurement and Dimension

Essential Questions:

1. Why are geometry and geometric figures relevant and important?
2. How can geometric ideas be communicated using a variety of representations?
******(i.e maps, grids, charts, spreadsheets)
3. How can geometry be used to solve problems about real-world situations, spatial relationships, and logical reasoning?

Essential Vocabulary – cylinder, pyramid, cone, Cavalieri's principle, cross-section

HS.G-GMD.1: Give an informational argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. formula, circumference, circle, area, volume, cylinder, pyramid, cone	1. that formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone may be derived mathematically	1. explain circumference, area and volume formulas for circle, cylinder, pyramid, and cone using informal arguments

HS.G-GMD.2: (+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. Cavalieri's principle, formula, volume, sphere, solid figures	1. that Cavalieri's principle can be used to derive the formulas for volume of a sphere and other solid figures	1. explain Cavalieri's principle for use in volume of a sphere and other solid figures.

HS.G-GMD.3: Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.*

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. volume, cylinder, pyramid, cone sphere	1. that there are formulas to calculate the volumes of cylinders, pyramids, cones, and spheres	1. use volume formulas for cylinders, pyramids, cones, and spheres.

DRAFT

HS.G-GMD.4: Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.		
Geometry Enduring Understandings		
Students will know… 1. shapes, two-dimensional, three-dimensional, cross-sections, rotations	***Students will understand…*** 1. that the cross section of a three-dimensional object is a two-dimensional object 2. that the rotation of a two-dimensional object is a three dimensional object	***Students will be able to…*** 1. identify the shapes of two-dimensional cross-sections of three-dimensional objects 2. identify three-dimensional objects generated by rotations of two-dimensional objects.

DRAFT

High School – Expressing Geometric Properties with Equations

Essential Questions:

1. Why are geometry and geometric figures relevant and important?
2. How can geometric ideas be communicated using a variety of representations?
*******(i.e maps, grids, charts, spreadsheets)
3. How can geometry be used to solve problems about real-world situations, spatial relationships, and logical reasoning?

Essential Vocabulary – complete the square, Pythagorean Theorem, parabola, focus, directrix, ellipse, hyperbola, foci, slope, parallel, perpendicular, point, line segment, partition, ratio, distance formula, perimeter, area

HS.G-GPE.1: Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. circle, center, radius, Pythagorean Theorem, complete the square,	1. that the equation of a circle can be derived using the Pythagorean Theorem 2. that the center of a circle and its radius can be found by completing the square	1. derive the equation of a circle of given center and radius using the Pythagorean Theorem 2. find the center and radius of a circle by completing the square

HS.G-GPE.2: Derive the equation of a parabola given a focus and directrix.

Algebra III Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. equation, parabola, focus, directrix	1. that the equation for a parabola can be derived from a focus and directrix	1. derive the equation of a parabola given a focus and directrix.

HS.G-GPE.3: (+) Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

Algebra III Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. ellipse, hyperbola, foci, distance, constant	1. that equations of ellipses and hyperbolas can be derived from the foci	1. derive the equation of ellipses and hyperbolas given the foci

DRAFT

HS.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).*

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. coordinates, geometric theorems, algebraically	1. that coordinates can be used to prove geometric theorems	1. use coordinate to prove simple geometric theorems algebraically

HS.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).

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. slope, parallel, perpendicular	1. that for lines to be parallel or perpendicular a certain slope criteria must exist	1. prove the slope of parallel and perpendicular lines to use them to solve geometric problems

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

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. point, line segment, partition, ratio, bisector	1. that a point on a line segment will divide the segment into two smaller segments	1. find a point on a segment that creates a bisector or any other given ratio

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

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. coordinates, perimeters, polygons, area of triangle, area of rectangle, distance formula	1. that coordinates can be used to compute perimeter and area of polygons	1. use coordinates to compute perimeters and areas of triangles and rectangles 2. use the distance formula

DRAFT

High School – Modeling with Geometry

Essential Questions:

1. Why are geometry and geometric figures relevant and important?
2. How can geometric ideas be communicated using a variety of representations?
*******(i.e maps, grids, charts, spreadsheets)
3. How can geometry be used to solve problems about real-world situations, spatial relationships, and logical reasoning?

Essential Vocabulary –

HS.G-MG.1: Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder; modeling a Montana American Indian tipi as a cone).*

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. geometric shapes, measures, properties	1. that geometric shapes can be used to model real world situations	1. use geometric shapes, their measures, and their properties to describe objects

HS.G-MG.2: Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).*

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. density, area, volume	1. that density is based upon area and volume	1. apply concepts of density based on area and volume in modeling situations

HS.G-MG.3: Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).*

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. geometric methods	1. that geometric methods can be used to solve design problems	1. apply geometric methods to solve design problems

DRAFT

High School – Similarity, Right Triangles, and Trigonometry

Essential Questions:

1. Why are geometry and geometric figures relevant and important?
2. How can geometric ideas be communicated using a variety of representations?
******(i.e maps, grids, charts, spreadsheets)
3. How can geometry be used to solve problems about real-world situations, spatial relationships, and logical reasoning?

Essential Vocabulary – scale factor, similarity, similarity transformations, proportionality, AA, criterion, Pythagorean Theorem, similarity, side ratios, trigonometric ratios, sine, cosine, complementary angles, trigonometric ratios, auxiliary line, vertex, Law of Sines, Law of Cosines, resultant forces

HS.G-SRT.1::

1. Verify experimentally the properties of dilations given by a center and a scale factor:
   a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.

The dilation of a line segment is longer or shorter in the ratio given by the scale factor.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. properties of dilations, center, scale factor	1. that a dilation changes a figure's size based on scale factor	1. dilate changes a figure's size based on scale factor

HS.G-SRT.2: Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.

HS.G-SRT.2

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. similarity, similarity transformations, proportionality, corresponding angles, corresponding sides,	1. that transformations may be used to obtain similar figures	1. determine if two figures are similar using similarity transformations 2. explain why two figures are similar using similarity transformations

HS.G-SRT.3: Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. similarity transformations, AA, criterion	1. that in order for two triangles to be similar, there needs to exist AA criterion	1. show triangles are similar by using the AA criterion

DRAFT

HS.G-SRT.4: Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. theorems, triangle, parallel, Pythagorean Theorem	1. that there exists theorems about similar triangles	1. use similarity to complete proofs about triangles.

HS.G-SRT.5: Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. congruence, similarity, triangles, geometric figures	1. that congruency and similarity for triangles can be used to solve problems 2. that congruency and similarity for triangles can be used to prove relationships in geometric figures	1. use congruence and similarity for triangles to complete proofs about geometric figures

HS.G-SRT.6: Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. side ratios, right triangles, trigonometric ratios, acute angles, similarity	1. that by similarity, side ratios in right triangles are properties of the angles in the triangle	1. find side ratios in right triangles 2. define trigonometric ratios

HS.G-SRT.7: Explain and use the relationship between the sine and cosine of complementary angles.

Geometry Enduring Understandings

Students will know…	***Students will understand…***	***Students will be able to…***
1. sine, cosine, complementary angles	1. that there exists a relationship between sine and cosine of complementary angles	1. explain the relationship between sine and cosine of complementary angles

DRAFT

HS.G-SRT.8: Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.		
Geometry Enduring Understanding		
Students will know…	***Students will understand…***	***Students will be able to…***
1. trigonometric ratios, Pythagorean Theorem	1. that trigonometric ratios and the Pythagorean Theorem can be used to solve right triangles	1. apply trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems 2. model trigonometric ratios and the Pythagorean Theorem
HS.G-SRT.9: (+) Derive the formula $A = \frac{1}{2}ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.		
Algebra II/Trig Enduring Understandings		
Students will know…	***Students will understand…***	***Students will be able to…***
1. area formula for a triangle, auxiliary line, vertex, perpendicular, opposite side	1. that the area formula for a triangle can be derived using a trigonometric ratio	1. derive the area formula of a triangle using a sine ratio
HS.G-SRT.10: (+) Prove the Laws of Sines and Cosines and use them to solve problems.		
Geometry Enduring Understandings		
Students will know…	***Students will understand…***	***Students will be able to…***
1. law of sines, law of cosines	1. that right triangle trigonometry can be used to prove the Law of Sines and Cosines	1. prove the laws of sines and cosines
HS.G-SRT.11: (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).		
Geometry Enduring Understandings		
Students will know…	***Students will understand…***	***Students will be able to…***
1. Law of Sines, Law of Cosines, measurements, resultant forces	1. that the Law of Sines and Cosines can be used to find unknown measurements in right and non-right traingles	1. apply the Laws of Sines and Cosines on right and non-right triangles in application based problems

DRAFT