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What's in KnowRe's Curricula?

Geometry Curriculum

Chapter	Lesson	Topics
1. Basics of Geometry	1-1 Undefined Terms	A. Points B. Lines C. Planes D. Intersections of Undefined Figures E. Line Segments F. Rays
	1-2 Segments	A. Distance B. Segment Addition Postulate C. Congruent Segments D. Construction: Duplicating a Segment
	1-3 Distance and Midpoint	A. Pythagorean Theorem to Determine the Hypotenuse Length B. Distance and the Distance Formula C. Midpoint and the Midpoint Formula D. Segment Bisectors E. Construction: Segment Bisector
	1-4 Angles	A. Angle Components B. Naming Angles C. Measuring Angles D. Classifying Angles E. Angle Addition Postulate F. Congruent Angles G. Construction: Duplicating an Angle
	1-5 Angle Relationships	A. Adjacent Angles B. Complementary Angles C. Supplementary Angles D. Linear Pairs E. Vertical Angles F. Angle Bisectors
	1-6 Perimeter and Area	A. Perimeter of Square, Rectangle, and Triangle B. Circumference C. Area of Square, Rectangle, and Triangle D. Area of Circle

Chapter	Lesson	Topics
2. Reasoning and Proof	2-1 Conditional and Biconditional Statements	A. Conditional Statements B. Counterexamples C. Negation D. Inverse, Converse, and Contrapositive E. Biconditional Statements
	2-2 Algebraic Proofs	A. Properties of Equality B. Distributive Property C. Simplifying D. Algebraic Proof
	2-3 Introduction to Geometric Proof	A. Properties of Segment Congruence B. Properties of Angle Congruence C. Proving Segments Congruent D. Proving Angles Congruent
	2-4 Proof and Angle Relationships	A. Postulates and Theorems B. Right Angle Theorem C. Vertical Angle Theorem D. Congruent Complements Theorem E. Congruent Supplements Theorem
3. Parallel and Perpendicular Lines	3-1 Parallel Lines and Transversals	A. Parallel Lines B. Skew Lines C. Parallel Planes D. Transversals E. Interior and Exterior Angles F. Identifying Corresponding Angles G. Identifying Alternate Interior Angles H. Identifying Alternate Exterior Angles I. Identifying Consecutive Interior Angles
	3-2 Parallel Lines and Angle Pairs	A. Corresponding Angles Postulate B. Alternate Interior Angles Theorem C. Alternate Exterior Angles Theorem D. Consecutive Interior Angles Theorem
	3-3 Proving Lines Parallel	A. Converse of Corresponding Angles Postulate B. Converse of Alternate Interior Angles Theorem C. Converse of Alternate Exterior Angles Theorem D. Converse of Consecutive Interior Angles Theorem
	3-4 Parallel and Perpendicular Lines	A. Perpendicular Lines B. Parallel and Perpendicular Line Theorems C. Perpendicular Bisectors D. Construction: Perpendicular Bisector
	3-5 Equations of Lines	A. Slope B. Slope-Intercept Form C. Point-Slope Form
	3-6 Slopes of Parallel and Perpendicular Lines	A. Lines with Undefined and Zero Slope B. Slopes of Parallel and Perpendicular Lines C. Equations of Parallel and Perpendicular Lines

Chapter	Lesson	Topics
4. Congruent Triangles	4-1 Angles of Triangles	A. Triangle-Angle Sum Theorem B. Interior and Exterior Angles of Triangles C. Triangle Exterior Angle Theorem
	4-2 Classifying Triangles	A. Triangle Notation B. Classifying Triangles by their Angles C. Classifying Triangles by their Sides
	4-3 Properties of Isosceles and Equilateral Triangles	A. Components of Isosceles Triangles B. Properties of Isosceles Triangles C. Properties of Equilateral Triangles
	4-4 Congruent Figures	A. Congruent Polygons B. Congruence Statements C. Using Congruent Polygons to Determine Measures D. Third Angles Theorem E. Proving Polygons Congruent F. Corresponding Parts of Congruent Triangles are Congruent
	4-5 Proving Triangle Congruence	A. Side-Side-Side Congruence Postulate B. Side-Angle-Side Congruence Postulate C. Angle-Side-Angle Congruence Postulate D. Angle-Angle-Side Congruence Theorem E. Hypotenuse-Leg Congruence Theorem F. Identifying the Reason for Triangle Congruence
5. Relationships in Triangles	5-1 Bisectors	A. Distance from a Point to a Line B. Angle Bisector Theorem and its Converse C. Perpendicular Bisector Theorem and its Converse D. Construction: Angle Bisector E. Construction: Perpendicular Bisector
	5-2 Perpendicular and Angle Bisectors in Triangles	A. Perpendicular Bisectors of Triangles B. Circumcenters C. Circumscribed Triangles D. Angle Bisectors of Triangles E. Incenters F. Circles Inscribed in Triangles G. Construction: Circumscribing a Triangle H. Construction: Circle Circumscribing an Equilateral Triangle I. Construction: Inscribing a Circle in a Triangle
	5-3 Medians and Altitudes in Triangles	A. Medians of Triangles B. Centroids C. Altitudes of Triangles D. Orthocenters
	5-4 Angle-Side Relationships in Triangles	A. Using Side Lengths to Compare Interior Angle Measures B. Using Interior Angle Measures to Compare Side Lengths
	5-5 Triangle Inequalities	A. Triangle Inequality Theorem B. Determining Possible Lengths of a Missing Side in a Triangle

Chapter	Lesson	Topics
6. Polygons and Quadrilaterals	6-1 Introduction to Polygons	A. Determining if Figures are Polygons B. Naming Polygons C. Identifying Concave and Convex Polygons D. Properties of Regular Polygons E. Construction: Square Inscribed in a Circle F. Construction: Regular Hexagon Inscribed in a Circle
	6-2 Angles of Polygons	A. Sum of the Measures of the Interior Angles in Convex Polygons B. Measure of Each Interior Angle in Regular Convex Polygons C. Sum of the Measures of the Exterior Angles of Convex Polygons D. Measure of Each Exterior Angle of Regular Convex Polygons
	6-3 Parallelograms	A. Opposite and Consecutive Angles and Sides B. Definition of Parallelogram C. Opposite Sides of Parallelograms D. Opposite Angles of Parallelograms E. Diagonals of Parallelograms F. Properties of Parallelograms
	6-4 Test for Parallelograms	A. Using Opposite Sides to Prove a Quadrilateral is a Parallelogram B. Using Opposite Angles to Prove a Quadrilateral is a Parallelogram C. Using Diagonals to Prove a Quadrilateral is a Parallelogram D. Using One Pair of Opposite Sides to Prove a Quadrilateral is a Parallelogram E. Determining if Quadrilaterals are Parallelograms
	6-5 Rectangles	A. Definition of Rectangle B. Properties of Diagonals in Rectangles C. Determining if a Parallelogram is a Rectangle D. Properties of Rectangles
	6-6 Rhombuses and Squares	A. Definition of Rhombus B. Properties of Diagonals in Rhombuses C. Determining if a Parallelogram is a Rhombus D. Properties of Rhombuses E. Definition of Square F. Determining if a Parallelogram is a Square G. Properties of Squares
	6-7 Trapezoids and their Midsegments	A. Definition of Trapezoid B. Components of Trapezoids C. Definition of Isosceles Trapezoid D. Base Angles of Isosceles Trapezoids E. Diagonals of Isosceles Trapezoids F. Midsegments of Trapezoids
	6-8 Kites	A. Definition of Kite B. Diagonals of Kites C. Opposite Angles in Kites

Chapter	Lesson	Topics
7. Transformations	7-1 Transformation Notation and Translations	A. Transformation Notation B. Using Triangle Congruence to Determine if Pairs of Figures are Isometries C. Identifying Translations D. Determining Preimages and Images E. Translation Functions F. Translation Vectors G. Writing Translation Vectors as Translation Functions
	7-2 Reflections	A. Identifying Reflections B. Identifying Lines of Reflection C. Identifying Images D. Reflecting in Horizontal and Vertical Lines E. Reflecting in the x-axis and y-axis F. Reflecting in y=x and y=-x G. Determining a Line of Reflection
	7-3 Symmetry and Rotations	A. Lines of Symmetry B. Determining if Figures have Rotational Symmetry C. Fold Rotational Symmetry D. Degree of Rotational Symmetry E. Identifying Rotation about a Point F. Rotating a Figure about a Vertex of the Figure G. Rotating about the Origin
	7-4 Dilations	A. Types of Dilations B. Scale Factor C. Dilation about a Point D. Determining if Transformations are Dilations E. Dilation about the Origin
	7-5 Composition of Isometries	A. Composition Notation B. Composition of Reflections in Parallel Lines C. Composition of Reflections in Intersecting Lines D. Glide Reflections E. Performing Compositions of Isometries F. Identifying Compositions of Isometries that Map a Preimage onto an Image

Chapter	Lesson	Topics
8. Similar Figures	8-1 Ratio and Proportion	A. Ratio B. Proportion C. Equivalent Proportions D. Solving Proportions
	8-2 Directed Line Segments	A. Ratios and Segments B. Using Ratios of Segments to Determine Segment Length C. Using Ratios of Segments to Determine the Coordinates of a Point on a Segment
	8-3 Similar Polygons	A. Similarity Statements B. Using Similarity Statements to Identify Corresponding Parts C. Proportionality Statements D. Scale Factor
	8-4 Similar Triangles	A. Angle-Angle Triangle Similarity Postulate B. Side-Side-Side Similarity Theorem C. Side-Angle-Side Similarity Theorem D. Identifying the Reason for a Triangle Similarity E. Missing Measures in Similar Triangles
	8-5 Proportions in Triangles	A. Parallel Lines and Proportional Segments B. Angle Bisectors and Proportional Segments
	8-6 Midsegments of Triangles	A. Parallel Segments B. Length Relationships

Chapter	Lesson	Topics
9. Right Triangles and Trigonometry	9-1 Right Triangle Similarity	A. Right Triangles and Proportionality Statements B. Missing Measures in Similar Right Triangles
	9-2 Pythagorean Theorem and Pythagorean Inequalities	A. Pythagorean Theorem B. Pythagorean Triples C. Pythagorean Inequalities
	9-3 Isosceles Right Triangles	A. Determine the Length of the Hypotenuse from a Leg B. Determine the Length of a Leg from the Hypotenuse
	9-4 30°-60°-90° Triangles	A. Determine the Length of the Long Leg and the Hypotenuse from the Short Leg B. Determine the Length of the Short Leg and the Long Leg from the Hypotenuse C. Determine the Length of the Short Leg and the Hypotenuse from the Long Leg
	9-5 Trigonometric Ratios	A. Sine, Cosine, and Tangent Ratios B. Relationship Between the Sine and Cosine Ratios for Complementary Angles C. Inverse Trigonometric Ratios
	9-6 Solving Right Triangles	A. Use Trigonometry to Determine Missing Side Lengths in Right Triangles B. Use Trigonometry to Determine Missing Interior Angles in Right Triangles C. Define Angle of Elevation and Angle of Depression D. Determine Angle of Elevation/Depression E. Angle of Elevation/Depression to Determine Missing Lengths
	9-7 Area of Triangles and Law of Sines	A. Area of Triangle using Sine B. Law of Sines to Determine Measures of Missing Lengths C. Law of Sines to Determine Measures of Interior Angles in Obtuse Triangles
	9-8 Law of Cosines	A. Law of Cosines to Determine Measures of Missing Lengths in Triangles B. Law of Cosines to Determine Measures of Interior Angles in Triangles

Chapter	Lesson	Topics
10. Circles	10-1 Introduction to Circles	A. Center B. Circle Notation C. Segments in Circles D. Major and Minor Arcs E. Central Angles
	10-2 Tangents	A. Tangent Lines B. Point of Tangency C. Common Internal and External Tangents D. Internally and Externally Tangent Circles E. Concentric Circles F. Tangent Lines and Radii G. The Length of Tangent Segments Intersecting in the Exterior a Circle
	10-3 Inscribed Angles	A. Inscribed Angles and their Intercepted Arcs B. Inscribed Angles formed by Two Chords C. Inscribed Angles that Intersect the Same Arc D. Inscribed Angles formed by a Chord and a Tangent E. Right Triangles Inscribed in Circles F. Quadrilaterals Inscribed in Circles
	10-4 Special Segment and Angle Relationships	A. Measures of Angles formed by Two Chords Intersecting in the Interior of a Circle B. Measures of Angles formed by Secants and/or Tangents Intersecting in the Exterior of a Circle C. Lengths of Segments when Chords Intersect in the Interior of a Circle D. Lengths of Segments when Two Secants Intersect in the Exterior of a Circle E. Lengths of Segments when a Secant and a Tangent Intersect in the Exterior of a Circle
	10-5 Chord Theorems	A. Congruent Chords and Their Intercepted Arcs B. Perpendicular Diameters and Chords C. Chords that are Equidistant from the Center
	10-6 Equations of Circles	A. Distance Formula to Derive the Equation of a Circle B. Write an Equation of a Circle C. Determine the Center and the Radius from an Equation of a Circle D. Similar Circles

Chapter	Lesson	Topics
11. Perimeter, Area, and Circumference	11-1 Areas of Quadrilaterals	A. Area of Parallelogram B. Area of Kite C. Area of Rhombus D. Area of Trapezoid
	11-2 Areas of Triangles	A. Area of Triangle Given Base and Height B. Deriving the Formula for the Area of Equilateral Triangles C. Use Side Lengths of Equilateral Triangles to Determine their Area D. Use Areas of Equilateral Triangles to Determine their Side Lengths
	11-3 Perimeter and Area of Regular Polygons	A. Perimeter of Regular Polygons B. Central Angles and Apothems of Regular Polygons C. Area of Regular Polygons given Apothem or Perimeter
	11-4 Area of Regular Polygons with Right Triangles	A. Area of Regular Polygons Using Special Right Triangles B. Area of Regular Polygons Using Trigonometry
	11-5 Arc Length and Sectors	A. Arc Length B. Use Arc Length to Determine Measures of Segments and Angles in a Circle C. Sectors D. Use Sectors to Determine Measures of Segments and Angles in a Circle

Chapter	Lesson	Topics
12. Solids	12-1 Introduction to Solids	A. Defining Polyhedra B. Identifying Faces, Vertices, Edges C. Euler's Formula D. Identifying Bases and Lateral Faces E. Naming Solids F. Cross Sections of Solids G. Rotations of Two-Dimensional Figures
	12-2 Surface Area of Prisms and Cylinders	A. Nets of Prisms and Cylinders B. Surface Area of Nets C. Lateral Area of Right Prisms and Cylinders D. Surface Area of Right Prisms and Cylinders
	12-3 Surface Area of Pyramids and Cones	A. Nets of Pyramids and Cones B. Surface Area of Nets C. Lateral Area of Right Pyramids and Cones D. Surface Area of Right Pyramids and Cones
	12-4 Volume of Prisms and Cylinders	A. Volume of Right Prisms and Cylinders B. Volume of Oblique Prisms and Cylinders
	12-5 Volume of Pyramids and Cones	A. Volume of Right Pyramids and Cones B. Volume of Oblique Pyramids and Cones
	12-6 Surface Area and Volume of Spheres	A. Segments in Spheres B. The Great Circle and Hemispheres C. Surface Area of Spheres D. Volume of Spheres E. Surface Area and Volume of Hemispheres
	12-7 Ratios of Lengths, Areas, and Volumes of Similar Figures	A. Similar Solids B. Determine Ratios of Length, Area, or Volume from a Ratio of Length C. Determine a Ratio of Length from a Ratio of Area or Volume D. Determine a Ratio of Volume from a Ratio of Area E. Using a Ratio of Length and a Measure of Length, Area, or Volume to Determine a Second Measure F. Using Ratios of Area or Volume and a Measure of Length to Determine a Measure of Length G. Using a Ratio of Area and a Measure of Volume to Determine a Measure of Volume H. Using a Ratio of Volume and a Measure of Area to Determine a Measure of Area