

Goal: Geometry

DesCartes: A Continuum of Learning®

Mathematics RIT Score Range:

Skills and Concepts to Develop (50% Probability*) Skills and Concepts to Introduce (27% Probability*) < 161 161 - 170 Geometric Measurement and Relationships Geometric Measurement and Relationships • Identifies spatial sense concepts (e.g., outside, inside, between, over, · Sorts solid figures and objects according to attributes under, above, below, behind, in front, middle) • Identifies and names a cone · Identifies and names a circle · Compares open and closed figures • Identifies position of shapes (e.g., inside, outside, between) Compares objects (shorter, longer) • Estimates and measures length of an object to the nearest inch using a picture of a ruler • Measures length with customary measures to the inch mark • Measures length with metric measures to the centimeter mark · Identifies and names a triangle · Identifies and names a square • Identifies and names a rectangle · Identifies sides and vertices of polygons Congruence, Similarity, Right Triangles, & Trig Congruence, Similarity, Right Triangles, & Trig • Identifies figures that are the same size and shape • Identifies figures that are the same size and shape New Vocabulary: None New Vocabulary: corner, flat New Signs and Symbols: None New Signs and Symbols: None

< 161

Explanatory Notes



Mathematics

Goal: Geometry

RIT Score Range:

161 - 170

Skills and concepts to Enhance (73% Probability*) < 161	Skills and Concepts to Develop (50% Probability*) 161 - 170	Skills and Concepts to Introduce (27% Probability*) 171 - 180
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
• Identifies spatial sense concepts (e.g., outside, inside, between, over,	Sorts solid figures and objects according to attributes	Identifies and names a triangle
under, above, below, behind, in front, middle)	Identifies and names a cone	Recognizes geometric shapes in real-world objects
Identifies and names a circle	Compares open and closed figures	Identifies and names a cube
	Identifies position of shapes (e.g., inside, outside, between)	Identifies and names a square
	Compares objects (shorter, longer)	Estimates and measures length of an object to the nearest centimeter
	Estimates and measures length of an object to the nearest inch using	using a picture of a ruler
	a picture of a ruler	Measures length with customary measures to the inch mark
	Measures length with customary measures to the inch mark	Determines the area of irregular shapes by counting square units
	Measures length with metric measures to the centimeter mark	
	Identifies and names a triangle	
	Identifies and names a square	
	Identifies and names a rectangle	
	Identifies sides and vertices of polygons	
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
• Identifies figures that are the same size and shape	Identifies figures that are the same size and shape	Identifies figures that are similar
New Vocabulary: None	New Vocabulary: corner, flat	New Vocabulary: geometric figure, similar
New Signs and Symbols: None	New Signs and Symbols: None	New Signs and Symbols: None

Explanatory Notes



Mathematics

RIT Score Range:

171 - 180

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 161 - 170	Skills and Concepts to Develop (50% Probability*) 171 - 180	Skills and Concepts to Introduce (27% Probability*) 181 - 190
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
 Sorts solid figures and objects according to attributes 	Identifies and names a triangle	Identifies and names a sphere
 Identifies and names a cone 	Recognizes geometric shapes in real-world objects	Selects and uses the appropriate type and size of unit in customary
 Compares open and closed figures 	Identifies and names a cube	system (length)
 Identifies position of shapes (e.g., inside, outside, between) 	Identifies and names a square	Measures length with customary measures to the half-inch mark
 Compares objects (shorter, longer) 	• Estimates and measures length of an object to the nearest centimeter	Uses a variety of non-standard units to measure the same length
• Estimates and measures length of an object to the nearest inch using a	using a picture of a ruler	Determines more capacity or less capacity
picture of a ruler	Measures length with customary measures to the inch mark	Determines the perimeter of a figure where all sides are labeled
 Measures length with customary measures to the inch mark 	Determines the area of irregular shapes by counting square units	Determines the area of irregular shapes by counting square units
 Measures length with metric measures to the centimeter mark 		Classifies polygons by sides and vertices
 Identifies and names a triangle 		Identifies and names a cube
Identifies and names a square		
 Identifies and names a rectangle 		
 Identifies sides and vertices of polygons 		
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
 Identifies figures that are the same size and shape 	Identifies figures that are similar	Identifies plane figures with line symmetry
		Identifies congruent figures
		Identifies figures that are similar
		Identifies transformations of plane figures (rotations/turns)
New Vocabulary: corner, flat	New Vocabulary: geometric figure, similar	New Vocabulary: estimation, millimeter, symmetry
New Signs and Symbols: None	New Signs and Symbols: None	New Signs and Symbols: None

Explanatory Notes



Mathematics

Goal: Geometry

RIT Score Range:

181 - 190

Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200		
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships		
Identifies and names a triangle Recognizes geometric shapes in real-world objects	Identifies and names a sphere Selects and uses the appropriate type and size of unit in customary	Creates a new shape by combining different shapes, or identifies the different shapes that were used to make the original shape		
 Identifies and names a cube Identifies and names a square Estimates and measures length of an object to the nearest centimeter using a picture of a ruler 	system (length) Measures length with customary measures to the half-inch mark Uses a variety of non-standard units to measure the same length	 Explores maps and relates them to measurements of real distances, using the scale Sorts 2-D shapes and objects according to their attributes Selects and uses the appropriate type and size of unit in customary 		
Measures length with customary measures to the inch mark Determines the area of irregular shapes by counting square units	 Determines more capacity or less capacity Determines the perimeter of a figure where all sides are labeled Determines the area of irregular shapes by counting square units Classifies polygons by sides and vertices Identifies and names a cube 	Determines thore capacity of less capacity Determines the perimeter of a figure where all sides are labeled Determines the area of irregular shapes by counting square units Classifies polygons by sides and vertices Solve the state of the state	 Determines the perimeter of a figure where all sides are labeled Determines the area of irregular shapes by counting square units Classifies polygons by sides and vertices Solves simple problems involving the perimeter of squares, received and solves are labeled Solves simple problems involving the perimeter of squares, received and solves are labeled 	 system (length) Determines the perimeter of a figure where all sides are labeled Determines the perimeter of a figure where some sides are labeled Solves simple problems involving the perimeter of squares, rectangles, or triangles
		Estimates the area of rectangles using square units Identifies lines Identifies parallel lines Uses models to compare angles relative to right angles Identifies right angles Identifies corners (vertices) of cubes Identifies the number of faces on rectangular prisms Identifies and names a cylinder Identifies and names a sphere		
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig		
Identifies figures that are similar	 Identifies plane figures with line symmetry Identifies congruent figures Identifies figures that are similar Identifies transformations of plane figures (rotations/turns) 	 Identifies plane figures with line symmetry Identifies congruent figures Identifies congruent polygons and their corresponding sides and angles Identifies the number of lines of symmetry in plane figures Identifies transformations of plane figures (reflections/flips) 		
New Vocabulary: geometric figure, similar	New Vocabulary: estimation, millimeter, symmetry	New Vocabulary: face, intersect, large, parallel, vertical line		
New Signs and Symbols: None	New Signs and Symbols: None	New Signs and Symbols: \$ dollar sign, ft feet, in. inch, m meter/metre, yd yard		

Explanatory Notes



Mathematics

Goal: Geometry

RIT Score Range:

191 - 200

Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
Identifies and names a sphere Selects and uses the appropriate type and size of unit in customary system (length) Measures length with customary measures to the half-inch mark Uses a variety of non-standard units to measure the same length Determines more capacity or less capacity Determines the perimeter of a figure where all sides are labeled Determines the area of irregular shapes by counting square units Classifies polygons by sides and vertices Identifies and names a cube	Creates a new shape by combining different shapes, or identifies the different shapes that were used to make the original shape Explores maps and relates them to measurements of real distances, using the scale Sorts 2-D shapes and objects according to their attributes Selects and uses the appropriate type and size of unit in customary system (length) Determines the perimeter of a figure where all sides are labeled Determines the perimeter of a figure where some sides are labeled Solves simple problems involving the perimeter of squares, rectangles, or triangles Estimates the area of rectangles using square units Identifies lines Identifies parallel lines Uses models to compare angles relative to right angles Identifies corners (vertices) of cubes Identifies and names a cylinder Identifies and names a sphere	Uses the appropriate unit of measure for length Knows the approximate size of a yard Measures length to the nearest centimeter Knows the approximate size of a pound Knows the approximate size of a gram Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents Determines the perimeter of a figure where some sides are labeled Describes the change in area of a triangle when 1 dimension of an object is altered (metric units) Estimates the area of rectangles using square units Determines the area of irregular shapes with partial square units Identifies situations where it is appropriate to calculate area Estimates and finds volume of a figure using cubic units Uses basic indirect methods to estimate measurements (grids for area of irregular figures) Identifies parallel lines Uses models to compare angles relative to right angles Identifies and names a parallelogram Identifies and names a trapezoid Identifies and names a trapezoid Identifies and names a hexagon Classifies polygons by number of sides Classifies polygons by sides and angles Identifies a cube from a net Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners)
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
 Identifies plane figures with line symmetry Identifies congruent figures Identifies figures that are similar Identifies transformations of plane figures (rotations/turns) 	 Identifies plane figures with line symmetry Identifies congruent figures Identifies congruent polygons and their corresponding sides and angles Identifies the number of lines of symmetry in plane figures Identifies transformations of plane figures (reflections/flips) 	Classifies plane figures by the number of lines of symmetry Identifies congruent polygons and their corresponding sides and angles
New Vocabulary: estimation, millimeter, symmetry	New Vocabulary: face, intersect, large, parallel, vertical line	New Vocabulary: cubic centimeter, cubic unit, edge, larger, parallel line,
New Signs and Symbols: None	New Signs and Symbols: \$ dollar sign, ft feet, in. inch, m meter/metre, yd yard	regular polygon, trapezoid New Signs and Symbols: cm centimeter/centimetre, ° degrees, g gram

Explanatory Notes



Mathematics

Goal: Geometry

RIT Score Range:

201 - 210

Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
	Uses the appropriate unit of measure for length Knows the approximate size of a yard Measures length to the nearest centimeter Knows the approximate size of a pound Knows the approximate size of a pound Knows the approximate size of a gram Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents Determines the perimeter of a figure where some sides are labeled Describes the change in area of a triangle when 1 dimension of an object is altered (metric units) Estimates the area of rectangles using square units Determines the area of irregular shapes with partial square units	Geometric Measurement and Relationships Identifies rays Classifies polygons by type of angle Identifies corners (vertices) of cubes Identifies the net which makes a cube-like (open box) figure Identifies the number of edges on rectangular prisms Predicts and verifies the effects of combining or subdividing basic shapes Determines an appropriate scale for representing a distance on a map Uses the appropriate unit of measure for length Knows the approximate size of a millimeter Selects and uses the appropriate type and size of unit in metric system (mass)
 Identifies parallel lines Uses models to compare angles relative to right angles Identifies right angles Identifies corners (vertices) of cubes Identifies the number of faces on rectangular prisms Identifies and names a cylinder Identifies and names a sphere 	 Identifies situations where it is appropriate to calculate area Estimates and finds volume of a figure using cubic units Uses basic indirect methods to estimate measurements (grids for area of irregular figures) Identifies parallel lines Uses models to compare angles relative to right angles Identifies and names a parallelogram Identifies and names a trapezoid Identifies and names a hexagon Classifies polygons by number of sides Classifies polygons by sides and angles Identifies corners (vertices) of cubes Identifies a cube from a net Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners) Identifies and names a cylinder 	 Solves simple problems involving capacity Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents Measures angles using a protractor Determines the perimeter of a figure using non-standard units Solves problems involving the perimeter of squares, rectangles, or triangles Finds the perimeter of a polygon using a formula Describes the change in perimeter when dimensions of an object are altered Determines the diameter, given the radius, and vice versa Describes the change in area of a triangle when 1 dimension of an object is altered (metric units) Determines the area of irregular shapes with partial square units Estimates and finds volume of a figure using cubic units Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units) Identifies properties of angles Identifies acute angles Identifies and names a trapezoid Identifies and names a rhombus
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Identifies and names a quadrilateral Congruence, Similarity, Right Triangles, & Trig
Identifies plane figures with line symmetry Identifies congruent figures Identifies congruent polygons and their corresponding sides and angles	Classifies plane figures by the number of lines of symmetry Identifies congruent polygons and their corresponding sides and angles	Identifies geometric transformations (translations) Identifies geometric transformations (rotations) Identifies similar and congruent triangles

Explanatory Notes



Mathematics

RIT Score Range: 201 - 210

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
Identifies the number of lines of symmetry in plane figuresIdentifies transformations of plane figures (reflections/flips)		Uses similar figures to construct ratios and solve for a missing side
New Vocabulary: face, intersect, large, parallel, vertical line New Signs and Symbols: \$ dollar sign, ft feet, in. inch, m meter/metre, yd	New Vocabulary: cubic centimeter, cubic unit, edge, larger, parallel line, regular polygon, trapezoid	New Vocabulary: acute angle, congruent angle, cord, dilation, obtuse angle, straight angle, transformation
yard	New Signs and Symbols: cm centimeter/centimetre, ° degrees, g gram	New Signs and Symbols: angle, angle marker (arc), measurement span down, measurement span left, measurement span right, measurement span up, mm millimeter/millimetre, • point, right angle marker, : used with time

Explanatory Notes



Mathematics

Goal: Geometry

RIT Score Range:

211 - 220

Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
Uses the appropriate unit of measure for length	Identifies rays	Identifies rays
Knows the approximate size of a yard	Classifies polygons by type of angle	Determines coordinates of geometric figures in the first quadrant
Measures length to the nearest centimeter	Identifies corners (vertices) of cubes	Measures length to the nearest millimeter
Knows the approximate size of a pound	• Identifies the net which makes a cube-like (open box) figure	Determines the perimeter of a figure using non-standard units
Knows the approximate size of a gram	Identifies the number of edges on rectangular prisms	Solves problems involving the perimeter of squares, rectangles, or
• Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents	Predicts and verifies the effects of combining or subdividing basic shapes	triangles • Solves problems involving the perimeter of irregular or complex shape
Determines the perimeter of a figure where some sides are labeled	Determines an appropriate scale for representing a distance on a map	Describes the change in perimeter when dimensions of an object are
Describes the change in area of a triangle when 1 dimension of an object is altered (matrix units).	Uses the appropriate unit of measure for length	altered
object is altered (metric units)	Knows the approximate size of a millimeter	Describes the change in area of a triangle when 1 dimension of an object is altered (metric units)
 Estimates the area of rectangles using square units Determines the area of irregular shapes with partial square units 	 Selects and uses the appropriate type and size of unit in metric system (mass) 	Calculates the area of a rectangle, given labeled sides (customary units)
 Identifies situations where it is appropriate to calculate area 	Solves simple problems involving capacity	Determines the length or width of a rectangle, given the area (metric)
 Estimates and finds volume of a figure using cubic units 	• Estimates the measure of acute, right, and obtuse angles using 45 and	units)
Uses basic indirect methods to estimate measurements (grids for area	90 degrees as referents	Solves simple problems involving the area of a square or rectangle
of irregular figures)	Measures angles using a protractor	Calculates the base or height of a parallelogram, given the area and
Identifies parallel lines	Determines the perimeter of a figure using non-standard units	formula (metric)
Uses models to compare angles relative to right angles	 Solves problems involving the perimeter of squares, rectangles, or triangles 	Determines the area of irregular shapes (customary units)
Identifies and names a parallelogram	Finds the perimeter of a polygon using a formula	Calculates area and perimeter of a rectangle (customary units)
Identifies and names a trapezoid	Describes the change in perimeter when dimensions of an object are	Calculates the volume of rectangular solids
 Identifies and names a hexagon Classifies polygons by number of sides 	altered	Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units)
Classifies polygons by sides and angles	Determines the diameter, given the radius, and vice versa	Determines which lines are perpendicular (analysis)
Identifies corners (vertices) of cubes	 Describes the change in area of a triangle when 1 dimension of an object is altered (metric units) 	Identifies and determines missing angle measures for supplementary
Identifies a cube from a net	Determines the area of irregular shapes with partial square units	angles
Classifies cubes by their properties (e.g., edges with equal lengths,	Estimates and finds volume of a figure using cubic units	• Identifies acute angles
faces with equal areas and congruent shapes, right angle corners)	Calculates the volume of a rectangular prism, and converts to a	Classifies equilateral triangles
Identifies and names a cylinder	different measurement scale (customary units)	Identifies and names a rhombus
	Identifies properties of angles	Identifies and names a quadrilateral
	Identifies acute angles	Compares polygons by properties
	Identifies obtuse angles	Identifies properties of quadrilaterals
	Identifies and names a trapezoid	Classifies polygons by type of angle
	Identifies and names a rhombus	Identifies the number of edges on rectangular prisms
	Identifies and names a quadrilateral	Uses similarity to solve problems using scale drawings
		Determines an appropriate scale for representing an object in a scale drawing
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
Classifies plane figures by the number of lines of symmetry	• Identifies geometric transformations (translations)	Identifies geometric transformations (reflections)
 Identifies congruent polygons and their corresponding sides and angles 	Identifies geometric transformations (rotations)	Identifies geometric transformations (rotations)

Explanatory Notes



Mathematics

RIT Score Range:

211 - 220

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
	Identifies similar and congruent triangles Uses similar figures to construct ratios and solve for a missing side	Identifies geometric transformations (translations) Identifies properties of parallel and perpendicular lines Recognizes the interior angle relationships of triangles Uses similar figures to construct ratios and solve for a missing side Uses similar triangles to construct ratios and solve for a missing side
New Vocabulary: cubic centimeter, cubic unit, edge, larger, parallel line,	New Vocabulary: acute angle, congruent angle, cord, dilation, obtuse	New Vocabulary: cubic meter, interior angle, long, scale factor
regular polygon, trapezoid	angle, straight angle, transformation	New Signs and Symbols: () ordered pair, feet, h height, inches, = is
New Signs and Symbols: cm centimeter/centimetre, ° degrees, g gram	New Signs and Symbols: angle, angle marker (arc), measurement span down, measurement span left, measurement span right, measurement span up, mm millimeter/millimetre, • point, right angle marker, : used with time	equal to, = is equal to, I length, × multiplication, : ratio, V volume, w width

Explanatory Notes



Mathematics

Goal: Geometry

RIT Score Range:

221 - 230

Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
Identifies rays	Identifies rays	Solves problems involving the perimeter of irregular or complex shapes
Classifies polygons by type of angle	Determines coordinates of geometric figures in the first quadrant	Calculates the volume of a rectangular prism, and converts to a
• Identifies corners (vertices) of cubes	Measures length to the nearest millimeter	different measurement scale (customary units)
• Identifies the net which makes a cube-like (open box) figure	Determines the perimeter of a figure using non-standard units	Determines which lines are perpendicular (analysis)
 Identifies the number of edges on rectangular prisms 	Solves problems involving the perimeter of squares, rectangles, or	Classifies isosceles triangles
• Predicts and verifies the effects of combining or subdividing basic	triangles	Classifies scalene triangles
shapes	Solves problems involving the perimeter of irregular or complex shapes	Identifies properties of circles
Determines an appropriate scale for representing a distance on a map	Describes the change in perimeter when dimensions of an object are altered	Compares polygons by properties
Uses the appropriate unit of measure for length	Describes the change in area of a triangle when 1 dimension of an	Identifies properties of quadrilaterals
Knows the approximate size of a millimeter	object is altered (metric units)	Uses similarity to solve problems using scale drawings
 Selects and uses the appropriate type and size of unit in metric system (mass) 	Calculates the area of a rectangle, given labeled sides (customary units)	 Explores maps and relates them to measurements of real distances, using proportional reasoning
Solves simple problems involving capacity Tatimates the measure of caute wints and obtains and obtains 45 and obtain	Determines the length or width of a rectangle, given the area (metric	Determines an appropriate scale for representing an object in a scale drawing
• Estimates the measure of acute, right, and obtuse angles using 45 and 90 degrees as referents	units)	Measures length to the nearest millimeter
Measures angles using a protractor	Solves simple problems involving the area of a square or rectangle Calculates the base or height of a parallelogram, given the area and	Describes the change in perimeter when dimensions of an object are
Determines the perimeter of a figure using non-standard units	formula (metric)	altered
Solves problems involving the perimeter of squares, rectangles, or	Determines the area of irregular shapes (customary units)	Identifies the formula for perimeter with a variable
triangles	Calculates area and perimeter of a rectangle (customary units)	Determines the circumference when given the diameter or radius (or vice versa)
 Finds the perimeter of a polygon using a formula Describes the change in perimeter when dimensions of an object are 	Calculates the volume of rectangular solids	Determines the circumference when given the area of a circle (or vice)
altered	Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units)	versa)
• Determines the diameter, given the radius, and vice versa	Determines which lines are perpendicular (analysis)	Knows the relationship between radius, diameter, and circumference
Describes the change in area of a triangle when 1 dimension of an	Identifies and determines missing angle measures for supplementary	Compares area of numerous triangles
object is altered (metric units)	angles	Determines the area of a triangle drawn on a grid
Determines the area of irregular shapes with partial square units Tatinates and finds values of a figure units pushing write.	Identifies acute angles	Determines the area of a triangle, given the formula Coloridate the area of a restangle, given the land sides (austomary).
Estimates and finds volume of a figure using cubic units Calculates the values of a restangular prime and converte to a	Classifies equilateral triangles	Calculates the area of a rectangle, given labeled sides (customary units)
Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units)	Identifies and names a rhombus	Determines the length or width of a rectangle, given the area (metric
Identifies properties of angles	Identifies and names a quadrilateral	units)
Identifies acute angles	Compares polygons by properties	Describes the change in area of a rectangle when dimensions of an abject are altered.
Identifies obtuse angles	Identifies properties of quadrilaterals	object are altered
Identifies and names a trapezoid	Classifies polygons by type of angle	Solves simple problems involving the area of a square or rectangle Determines the area of a parallelogram, given a labeled diagram
Identifies and names a rhombus	Identifies the number of edges on rectangular prisms	Calculates the base or height of a parallelogram, given the area and
Identifies and names a quadrilateral	Uses similarity to solve problems using scale drawings Determines an appropriate scale for representing an object in a scale	formula (metric)
	drawing	Determines the area of a trapezoid, given the formula (metric units)
		Solves problems comparing areas of different polygons
		Determines the area of irregular shapes (customary units)

Explanatory Notes



Mathematics

RIT Score Range:

221 - 230

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
		Understands the procedure for finding the area and surface area of figures
		Calculates the volume of rectangular solids
		Calculates the length, width, or height of a rectangular prism, given the area (customary units)
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
 Identifies geometric transformations (translations) Identifies geometric transformations (rotations) Identifies similar and congruent triangles Uses similar figures to construct ratios and solve for a missing side 	Identifies geometric transformations (reflections) Identifies geometric transformations (rotations) Identifies geometric transformations (translations) Identifies properties of parallel and perpendicular lines Recognizes the interior angle relationships of triangles Uses similar figures to construct ratios and solve for a missing side Uses similar triangles to construct ratios and solve for a missing side	Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles Recognizes the interior angle relationships of triangles Identifies geometric transformations (reflections) Determines whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation Identifies properties of congruent triangles Solves problems involving properties of congruent triangles Uses similar triangles to construct ratios and solve for a missing side Identifies geometric transformations (dilations)
New Vocabulary: acute angle, congruent angle, cord, dilation, obtuse	New Vocabulary: cubic meter, interior angle, long, scale factor	New Vocabulary: None
angle, straight angle, transformation	New Signs and Symbols: () ordered pair, feet, h height, inches, = is	New Signs and Symbols: () order of operations, + addition, C
New Signs and Symbols: angle, angle marker (arc), measurement span down, measurement span left, measurement span right, measurement span up, mm millimeter/millimetre, • point, right angle marker, : used with time	equal to, = is equal to, I length, × multiplication, : ratio, V volume, w width	circumference, congruent segment symbol, d diameter, × multiplication, P perimeter, pi, r radius

Explanatory Notes



Mathematics

Goal: Geometry

RIT Score Range:

231 - 240

Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) 241 - 250
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
Identifies rays	Solves problems involving the perimeter of irregular or complex shapes	Calculates the area of irregular shapes (metric units)
 Determines coordinates of geometric figures in the first quadrant 	Calculates the volume of a rectangular prism, and converts to a	Determines slope from an equation (analysis)
Measures length to the nearest millimeter	different measurement scale (customary units)	Determines the midpoint of a line on a coordinate grid
 Determines the perimeter of a figure using non-standard units 	Determines which lines are perpendicular (analysis)	Determines the figure when plotting ordered pairs
 Solves problems involving the perimeter of squares, rectangles, or triangles 	Classifies isosceles triangles Classifies scalene triangles	 Computes and interprets the midpoint, given a set of ordered pairs (horizontal and vertical lines)
• Solves problems involving the perimeter of irregular or complex shapes	Identifies properties of circles	• Determines the circumference when given the diameter or radius (or
• Describes the change in perimeter when dimensions of an object are	Compares polygons by properties	vice versa)
altered	Identifies properties of quadrilaterals	Determines the circumference when given the area of a circle (or vice
Describes the change in area of a triangle when 1 dimension of an abiastic alternal (matrix units)	Uses similarity to solve problems using scale drawings	versa)
object is altered (metric units)	Explores maps and relates them to measurements of real distances,	Determines the area of a triangle without the formula
 Calculates the area of a rectangle, given labeled sides (customary units) 	using proportional reasoning • Determines an appropriate scale for representing an object in a scale	 Determines the area of a figure when plotting ordered pairs without a grid
 Determines the length or width of a rectangle, given the area (metric units) 	drawing	 Solves problems involving area of a rectangle and converts to larger or smaller units (customary)
Solves simple problems involving the area of a square or rectangle	Measures length to the nearest millimeter	Describes the change in area of a rectangle when dimensions of an
 Calculates the base or height of a parallelogram, given the area and formula (metric) 	Describes the change in perimeter when dimensions of an object are altered	object are altered • Determines the area of a parallelogram, given a labeled diagram
Determines the area of irregular shapes (customary units)	Identifies the formula for perimeter with a variable	Solves problems involving area of a circle
Calculates area and perimeter of a rectangle (customary units)	Determines the circumference when given the diameter or radius (or vice versa)	Determines the diameter or radius when given the area of a circle
 Calculates the volume of rectangular solids 	Determines the circumference when given the area of a circle (or vice)	(metric units)
 Calculates the volume of a rectangular prism, and converts to a 	versa)	 Solves problems comparing areas of different polygons
different measurement scale (customary units)	Knows the relationship between radius, diameter, and circumference	Determines the area of irregular shapes (customary units)
 Determines which lines are perpendicular (analysis) 	Compares area of numerous triangles	 Solves complex problems involving inscribed figures
 Identifies and determines missing angle measures for supplementary 	Determines the area of a triangle drawn on a grid	Determines the surface area of rectangular solids
angles • Identifies acute angles	Determines the area of a triangle, given the formula	Determines the effects of changing dimensions on volume (no units)
Classifies equilateral triangles	Calculates the area of a rectangle, given labeled sides (customary units)	 Identifies and determines missing angle measures for complementary angles
 Identifies and names a rhombus 	Determines the length or width of a rectangle, given the area (metric)	Recognizes that the sum of the measures of two sides of a triangle
 Identifies and names a quadrilateral 	units)	must be greater than the measure of the third side
Compares polygons by properties	Describes the change in area of a rectangle when dimensions of an object are altered	
Identifies properties of quadrilaterals	Solves simple problems involving the area of a square or rectangle	
Classifies polygons by type of angle	Determines the area of a parallelogram, given a labeled diagram	
Identifies the number of edges on rectangular prisms	Calculates the base or height of a parallelogram, given the area and	
 Uses similarity to solve problems using scale drawings Determines an appropriate scale for representing an object in a scale 	formula (metric)	
drawing	Determines the area of a trapezoid, given the formula (metric units)	
	Solves problems comparing areas of different polygons	
	Determines the area of irregular shapes (customary units)	

Explanatory Notes



Mathematics

Goal: Geometry

RIT Score Range:

231 - 240

Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) 241 - 250
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
	Understands the procedure for finding the area and surface area of figures Calculates the volume of rectangular solids Calculates the length, width, or height of a rectangular prism, given the area (customary units)	
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
 Identifies geometric transformations (reflections) Identifies geometric transformations (rotations) Identifies geometric transformations (translations) Identifies properties of parallel and perpendicular lines Recognizes the interior angle relationships of triangles Uses similar figures to construct ratios and solve for a missing side Uses similar triangles to construct ratios and solve for a missing side 	Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles Recognizes the interior angle relationships of triangles Identifies geometric transformations (reflections) Determines whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation Identifies properties of congruent triangles Solves problems involving properties of congruent triangles Uses similar triangles to construct ratios and solve for a missing side Identifies geometric transformations (dilations)	Determines the new coordinates of a transformed geometric figure Determines whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation Determines the coordinates of the dilation of a figure on a coordinate graph Uses an indirect method to measure the height of an inaccessible object Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles Identifies corresponding and alternate exterior/interior angles Uses properties of angles to solve mathematical problems Recognizes the exterior angle relationships of triangles Uses the Pythagorean theorem to solve problems Uses Pythagorean triplets to solve problems
New Vocabulary: cubic meter, interior angle, long, scale factor	New Vocabulary: None	New Vocabulary: y-axis
New Signs and Symbols: () ordered pair, feet, h height, inches, = is equal to, = is equal to, I length, × multiplication, : ratio, V volume, w width	New Signs and Symbols: () order of operations, + addition, C circumference, congruent segment symbol, d diameter, × multiplication, P perimeter, pi, r radius	New Signs and Symbols: A area, b base, km kilometer/kilometre, line symbol, - negative number, parallel symbol, segment overbar, sq square, triangle

Explanatory Notes



Mathematics

Goal: Geometry

RIT Score Range:

241 - 250

Seametric Measurement and Relationships - Solves problems involving the perimeter of irregular solvening problems involving the perimeter of irregular solvening and converts to a different measurement scale (customary units) - Determines which lines are perpendicular (analysis) - Classifies scalenes triangles - Classifies scalenes triangles - Classifies scalenes triangles - Compares polygone by properties - Experimens and existing scale drawings - Experimens and existing scale for representing an object in a scale shared - Determines an appropriate scale for representing an object in a scale shared - Measures longific to the consect millimeter - Measures longific to the measurement of a circle (or vice versa) - Determines the circumference when given the dameter or radius (or vice versa) - Determines the circumference when given the dameter or radius (or vice versa) - Determines the circumference when given the dameter or radius (or vice versa) - Determines the circumference when given the dameter or radius (or vice versa) - Determines the circumference when given the dameter or radius (or vice versa) - Determines the circumference when given the dameter or radius (or vice versa) - Determines the circumference when given the dameter or radius (or vice versa) - Determines the circumference when given the dameter or radius (or vice versa) - Determines the circumference when given the dameter or rad	Skills and concepts to Enhance (73% Probability*) 231 - 240	Skills and Concepts to Develop (50% Probability*) 241 - 250	Skills and Concepts to Introduce (27% Probability*) 251 - 260
Classifiers consequent scale (coutsomary units) Determines which lines are perpendicular (analysis) Classifiers conceles triangles Compares polygons by properties Compares polygons by propertie	Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
Determines the figure when picturing ordered pairs Classifiles scalene triangles Classifiles scales triangles Classifies scales triangles Loarnifies properties of circles Computes polygrose by properties Classifies properties of circles Computes properties of circles Computes polygrose by properties Classifies scales problems using scale drawings Lyctores map and relates them to measurements of real distances, using proportional reasoning Determines the circumference when given the area of a circle (or vice versi) Determines an appropriate scale for representing an object in a scale drawing Determines an appropriate scale for representing an object in a scale furnity of the nearest millimeter Classifies from formula for perimeter with a variable Classifies the circumference when given the diameter or radius (or vice versi) Classifies the circumference of the diameter or radius (or vice versi) Classifies the circumference when given the diameter or radius (or vice versi) Classifies the circumference when given the diameter or radius (or vice versi) Classifies in perimeter with a variable Classifies in the circumference when given the diameter or radius (or vice versi) Classifies in the circumference when given the diameter or radius (or vice versi) Classifies in perimeter with a variable Classifies the circumference when given the diameter or radius (or vice versi) Classifies in perimeter with a variable Classifies in perimeter with a variable Classifies in the circumference when given the diameter or radius (or vice versi) Classifies in perimeter with a variable Classifies in perimeter with a variable Classifies in perimeter with a variable Classifies in the circumference when given the diameter or radius (or vice versi) Classifies in perimeter with a variable Classifies in the vice version in variable in the diameter or radius (or vice version) Classifies i	• Solves problems involving the perimeter of irregular or complex shapes	Calculates the area of irregular shapes (metric units)	Determines the slope of perpendicular lines
Determines the figure when plotting ordered pairs Classifies isosceles triangles Classifies isosceles triangles Classifies isosceles triangles Compares polygons by properties Classifies the care of a quadrilaterals Compares polygons by properties Classifies the care of a parallelogram, given a scale drawing Compares polygons by properties Compares polygons by properties Compares polygons by properties Classifies the care of a protein polygons Compares polygons by properties Compares polygons Compa		Determines slope from an equation (analysis)	Determines slope from an equation (analysis)
Classifies isosceles triangles Classifies cacher triangles Classifies cacher triangles Compares polygons by properties Compares polygons by properties Compares polygons by properties Classifies properties of quicklaterals Lespitores maps and relates them to measurements of real distances, such group ortional reasoning Control of the circumference when given the area of a circle (or vice versa) Classifies isosceles triangles Compares polygons by properties Compares and interprets the circumference when given the area of a circle (or vice versa) Classifies the change in perimeter when dimensions of an object are altered Control of the circumference when given the area of a figure when plotting ordered pairs without a grid Calculates the formula for perimeter with a variable Compares and interprets the area of a circle (or vice versa) Compares and propriete section of the provided of the compared pairs without a grid Calculates the formula for perimeter with a variable Compares an appropriate scale for representing an object in a scale drawing Control of the perimeter with a variable Compares an appropriate scale for representing an object in a scale afterwing Control of the perimeter with a variable Compares an appropriate scale for representing an object in a scale afterwing Control of the perimeter with a variable Compares area of universal triangles with the formula for perimeter when dimensions of an object area of a triangle drawn on a grid Calculates the area of a triangle, given the area of a circle (or vice versal) Compares area of u	,	Determines the midpoint of a line on a coordinate grid	Using the slope of an equation, identifies parallel and perpendicular
 Classifies scalene triangles Identifies properties of circles Compares polygons by properties House stimilarly to solve problems using scale drawings Explores maps and relates them to measurements of real distances, using proportional reasoning Determines the area of a figure when plotting ordered pairs without a gird Solves problems involving area of a rectangle when dimensions of an object are altered Determines the circumference when given the area of a circle (or vice versal) Determines the carge in perimeter when dimensions of an object are altered Determines the circumference when given the diameter or radius (or vice versal) Determines the carge in perimeter with a variable Determines the circumference when given the area of a circle (or vice versal) Determines the circumference when given the area of a circle (or vice versal) Determines the circumference when given the area of a circle (or vice versal) Solves problems involving area of a circle (or vice versal) Solves problems involving surface area (vice versal) Determines the circumference when given the area of a circle (or vice versal) Solves problems comparing areas of different polygons Determines the area of a triangle, given labeled disgram versal versa	 Determines which lines are perpendicular (analysis) 	Determines the figure when plotting ordered pairs	
- Compares polygons by properties - Compares polygons by properties - Identifies properties of quadritaterals - Uses similarly to solve problems using scale drawings - Explores maps and relates them to measurements of real distances, using proportional reasoning - Determines an appropriate scale for representing an object in a scale drawing - Measures length to the nearest millimeter - Describes the change in perimeter when dimensions of an object are altered - Determines the circumference when given the dameter or radius (or vice versa) - Determines the area of a triangle without the formula or perimeter when dimensions of an object are altered - Solves problems involving area of a rectangle and converts to larger or smaller units (customary) - Determines the circumference when given the dameter or radius (or vice versa) - Determines the circumference when given the dameter or radius (or vice versa) - Determines the circumference when given the area of a circle (or vice versa) - Determines the circumference when given the area of a circle (or vice versa) - Determines the circumference when given the area of a circle (or vice versa) - Determines the circumference when given the area of a circle (or vice versa) - Determines the circumference when given the area of a circle (or vice versa) - Determines the circumference when given the area of a circle (or vice versa) - Determines the circumference when given the area of a circle (or vice versa) - Determines the circumference when given the area of a circle (or vice versa) - Determines the area of a triangle distances, and circumference when given the area of a circle (or vice versa) - Determines the area of a triangle distances, and circumference when given the area of a circle (or vice versa) - Determines the area of a triangle distance, and circumference when given the area of a circle (or vice versa) - Determines the area of a triangle distance, and circumference when given the dismeter or radius when given the area of a circle (or vice versa) - Determines the	Classifies isosceles triangles	Computes and interprets the midpoint, given a set of ordered pairs	Determines the midpoint of a line on a coordinate grid
- Comparées polygons by properies - Identifies properties of quadrilaterals - Uses similarly to solve problems using scale drawings - Explores maps and relates them to measurements of real distances, using proportional reasoning - Determines an appropriate scale for representing an object in a scale drawing - Determines an appropriate scale for representing an object in a scale drawing - Measures length to the nearest millimeter - Describes the change in perimeter when dimensions of an object are altered - Determines the area of a figure when pitting ordered pairs without a grid - Solves problems involving area of a rectangle and converts to larger or smaller units) - Determines the formula for perimeter with a variable - Determines the circumference when given the area of a circle (or vice vice) - Determines the circumference when given the area of a circle (or vice vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (or vice) - Determines the circumference when given the area of a circle (o	· ·	, ,	
- Determines the circumference when given the area of a circle (or vice versa) - Determines the circumference when given the area of a figure when plotting ordered pairs without a girld	• •	· ·	·
- Uses similarly to solve problems using scale drawings - Explores maps and relates them to measurements of real distances, using proportional reasoning - Determines an appropriate scale for representing an object in a scale drawing - Measures length to the nearest millimeter - Describes the change in perimeter when dimensions of an object are aftered - Identifies the formula for perimeter with a variable - Determines the area of a figure when plotting ordered pairs without a grid - Object are aftered - Determines the circumference when given the diameter or radius (or vice versa) - Determines the circumference when given the diameter or radius (or vice versa) - Compares area of numerous triangles - Determines the area of a tractangle when dimensions or an object are aftered - Determines the area of a trangle dyraw the formula - Calculates the area of a trangle given the drawing in a radius and territor in the measures of two sides of a cube, given the volume of a cylinder - Object are aftered - Determines the area of a trangle dyraw the formula - Calculates the area of a trangle dyraw the formula - Calculates the area of a rectangle, given the area (manual metric) - Determines the area of a trangle organ, given a labeled diagram and picture of the properties involving area of a circle (or vice versa) - Determines the area of a trangle dyraw the formula - Calculates the area of a trangle dyraw the formula - Calculates the area of a rectangle when dimensions of an object are aftered - Determines the area of a rectangle, given the area (manual control or vice versa) - Determines the area of a rectangle when dimensions of an object are aftered - Determines the area of a rectangle when dimensions or or organic pareas of different polygons - Determines the area of a rectangle when dimensions or organic pareas of different polygons - Determines the area of a rectangle when dimensions of an object are aftered - Determines the area of a trangle dyraw no a grid - Determines the area of a trangle dyraw no a grid - Determ	 Compares polygons by properties 		
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- Solves problems involving area of a rectangle and converts to larger or smaller units (customary units) - Determines the area of a triangle drawn on a grid - Determines the area of a triangle grawn on a grid - Determines the area of a triangle grawn on a grid - Determines the area of a rectangle, given the area (metric units) - Determines the area of a rectangle, given the area (metric units) - Determines the beare or height of a parallelogram, given a labeled diagram - Solves problems involving area of a rectangle and converts to larger or smaller units (customary units) - Determines the circumference when given the area of a circle (or vice versa) - Nows the relationship between radius, diameter, and circumference - Compares area of numerous triangles - Determines the area of a triangle grawn on a grid - Determines the area of a triangle, given the formula - Calculates the area of a rectangle, given the area (metric units) - Describes the change in area of a rectangle when dimensions of an object are altered - Determines the diameter or radius when given the area of a circle (metric units) - Solves problems involving area of a circle (metric units) - Solves problems involving greas of a circle (metric units) - Solves problems involving area of a circle (metric units) - Solves problems involving area of a circle (metric units) - Solves problems involving area of a circle (metric units) - Solves problems involving area of a circle (metric units) - Solves problems involving area of a circle (metric units) - Solves problems involving area of a circle (metric units) - Solves problems involving area of a circle (metric units) - Solves problems involving inscribed figures - Solves problems involving inscribed figures - Solves problems involving inscribed figures - Calculates the length or one side of a cube, given the volume and formula (metric units) - Solves real-world problems involving area of a triangle gram problem involving inscribed figures - Calculates the value of a vertical problems involving inscribed	· · ·		Calculate the height of a trapezoid, given the area, without the formula
Measures length to the nearest millimeter Describes the change in perimeter when dimensions of an object are altered Identifies the formula for perimeter with a variable Determines the circumference when given the diameter or radius (or vice versa) Determines the circumference when given the area of a circle (or vice versa) Nows the relationship between radius, diameter, and circumference Compares area of numerous triangles Determines the area of a triangle drawn on a grid Determines the area of a triangle given the formula Calculates the area of a rectangle, given the area (metric units) Describes the change in area of a rectangle when dimensions of an object are altered Determines the area of including the vice of the properties Determines the area of a circle (metric units) Determines the area of a triangle grawn on a grid Determines the area of a triangle grawn on a grid Determines the area of a triangle, given the formula Calculates the area of a rectangle, given the area (metric units) Describes the change in area of a square or rectangle Solves complex problems involving inscribed figures Determines the length or width of a rectangle, given the area (metric units) Describes the change in area of a square or rectangle Solves complex problems involving inscribed figures Determines the length or width of a rectangle, given the area (a triangle drawn on a grid Determines the length or width of a rectangle when dimensions of an object are altered Solves complex problems involving areas of different polygons Determines the area of a triangle grawn on a grid Determines the area of a triangle grawn on a grid Solves complex problems involving inscribed figures Determines the urace of a triangle grawn on a grid Solves problems involving the area of a circle (metric units) Determines the area of a triangle grawn on a grid Solves problems involving the area of a circle (metric units) Determines the area of a triangle grawn on a grid Solves problems involving the area of a square or ectangle grawn or the meas		Solves problems involving area of a rectangle and converts to larger or	given (metric)
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Solves problems comparing areas of different polygons			
	Determines the area of a trapezoid, given the formula (metric units)		
Determines the area of irregular shapes (customary units)	Solves problems comparing areas of different polygons		
	Determines the area of irregular shapes (customary units)		

Explanatory Notes



Mathematics

RIT Score Range:

241 - 250

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 231 - 240	Skills and Concepts to Develop (50% Probability*) 241 - 250	Skills and Concepts to Introduce (27% Probability*) 251 - 260
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
 Understands the procedure for finding the area and surface area of figures 		
 Calculates the volume of rectangular solids 		
 Calculates the length, width, or height of a rectangular prism, given the area (customary units) 		
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
 Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles Recognizes the interior angle relationships of triangles Identifies geometric transformations (reflections) Determines whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation Identifies properties of congruent triangles Solves problems involving properties of congruent triangles Uses similar triangles to construct ratios and solve for a missing side Identifies geometric transformations (dilations) 	Determines the new coordinates of a transformed geometric figure Determines whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation Determines the coordinates of the dilation of a figure on a coordinate graph Uses an indirect method to measure the height of an inaccessible object Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles Identifies corresponding and alternate exterior/interior angles Uses properties of angles to solve mathematical problems Recognizes the exterior angle relationships of triangles Uses the Pythagorean theorem to solve problems Uses Pythagorean triplets to solve problems	Solves problems involving properties of similar triangles (e.g., using geometric mean, Triangle Proportionality Theorem) Determines the coordinates of the dilation of a figure on a coordinate graph Determines the distance between two points Uses reasoning to verify properties of parallel and perpendicular lines Identifies corresponding and alternate exterior/interior angles Uses properties of angles to solve mathematical problems Uses picture representations to identify symmetry of plane figures with respect to a point or line Recognizes the exterior angle relationships of triangles Solves problems involving properties of triangles Uses the Pythagorean theorem to solve problems Uses Pythagorean triplets to solve problems Verifies congruency of triangles using ASA, SAS, SSS, or AAS Solves problems involving similar polygons (not triangles)
New Vocabulary: None	New Vocabulary: y-axis	New Vocabulary: rotational symmetry
New Signs and Symbols: () order of operations, + addition, C circumference, congruent segment symbol, d diameter, × multiplication, P perimeter, pi, r radius	New Signs and Symbols: A area, b base, km kilometer/kilometre, line symbol, - negative number, parallel symbol, segment overbar, sq square, triangle	New Signs and Symbols: AAS angle angle side, ASA angle side angle, ° degrees, is congruent to, perpendicular to, SAS side angle side, square root symbol, SSA side side angle, SSS side side side, - subtraction

Explanatory Notes



Mathematics

di Coometry

Goal: Geometry

RIT Score Range:

251 - 260

Skills and concepts to Enhance (73% Probability*) 241 - 250	Skills and Concepts to Develop (50% Probability*) 251 - 260	Skills and Concepts to Introduce (27% Probability*) 261 - 270
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
Calculates the area of irregular shapes (metric units)	Determines the slope of perpendicular lines	Defines pi and knows common estimates (3.14 and 22/7)
Determines slope from an equation (analysis)	Determines slope from an equation (analysis)	Solves real-world problems involving surface area
 Determines the midpoint of a line on a coordinate grid 	Using the slope of an equation, identifies parallel and perpendicular	Using the slope of an equation, identifies parallel and perpendicular
Determines the figure when plotting ordered pairs	lines	lines
 Computes and interprets the midpoint, given a set of ordered pairs 	Determines the midpoint of a line on a coordinate grid	Determines the slope of perpendicular lines
(horizontal and vertical lines)	 Determines an endpoint of a line segment on a coordinate grid, given the midpoint and the other endpoint 	Determines slope from an equation (analysis)
 Determines the circumference when given the diameter or radius (or vice versa) 	Determines the circumference when given the area of a circle (or vice)	Solves problems involving complex figures (e.g., triangle, parallelogram)
Determines the circumference when given the area of a circle (or vice)	versa)	parallelogram)
versa)	Determines the area of a figure when plotting ordered pairs without a	
Determines the area of a triangle without the formula	grid	
Determines the area of a figure when plotting ordered pairs without a	Determines the area of a parallelogram, given a labeled diagram	
grid	Calculate the height of a trapezoid, given the area, without the formula	
Solves problems involving area of a rectangle and converts to larger or	given (metric)	
smaller units (customary)	Determines the diameter or radius when given the area of a circle (metric units)	
 Describes the change in area of a rectangle when dimensions of an object are altered 	Solves problems involving complex figures (e.g., triangle,	
Determines the area of a parallelogram, given a labeled diagram	parallelogram)	
Solves problems involving area of a circle	Solves complex problems involving inscribed figures	
Determines the diameter or radius when given the area of a circle	Solves real-world problems involving surface area	
(metric units)	Calculates the length of one side of a cube, given the volume	
 Solves problems comparing areas of different polygons 	(customary units)	
 Determines the area of irregular shapes (customary units) 	Determines the volume of a cylinder	
 Solves complex problems involving inscribed figures 	Calculates the radius of a sphere, given the volume and formula (metric units)	
 Determines the surface area of rectangular solids 	Solves real-world problems comparing volumes of figures	
 Determines the effects of changing dimensions on volume (no units) 	Recognizes that the sum of the measures of two sides of a triangle	
• Identifies and determines missing angle measures for complementary	must be greater than the measure of the third side	
angles	Classifies polygons by properties	
 Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side 		
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
Determines the new coordinates of a transformed geometric figure	Solves problems involving properties of similar triangles (e.g., using	Uses trigonometric methods to solve mathematical problems involving
Determines whether a given pair of figures on a coordinate plane	geometric mean, Triangle Proportionality Theorem)	triangles
represents a translation, reflection, rotation, or dilation	Determines the coordinates of the dilation of a figure on a coordinate	Uses the properties of 30-60-90 triangles to solve problems
• Determines the coordinates of the dilation of a figure on a coordinate	graph	Determines sine of an angle in a given right triangle
graph	Determines the distance between two points	Determines cosine of an angle in a given right triangle
Uses an indirect method to measure the height of an inaccessible	Uses reasoning to verify properties of parallel and perpendicular lines	Determines tangent of an angle in a given triangle
object	Identifies corresponding and alternate exterior/interior angles	Uses properties of angles to solve mathematical problems
 Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles 	Uses properties of angles to solve mathematical problems	
Identifies corresponding and alternate exterior/interior angles		
Explanatory Notes		



Mathematics

RIT Score Range:

251 - 260

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 241 - 250	Skills and Concepts to Develop (50% Probability*) 251 - 260	Skills and Concepts to Introduce (27% Probability*) 261 - 270
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
 Uses properties of angles to solve mathematical problems Recognizes the exterior angle relationships of triangles Uses the Pythagorean theorem to solve problems Uses Pythagorean triplets to solve problems 	Uses picture representations to identify symmetry of plane figures with respect to a point or line Recognizes the exterior angle relationships of triangles Solves problems involving properties of triangles Uses the Pythagorean theorem to solve problems Uses Pythagorean triplets to solve problems Verifies congruency of triangles using ASA, SAS, SSS, or AAS Solves problems involving similar polygons (not triangles)	
New Vocabulary: y-axis	New Vocabulary: rotational symmetry	New Vocabulary: trigonometric relationship
New Signs and Symbols: A area, b base, km kilometer/kilometre, line symbol, - negative number, parallel symbol, segment overbar, sq square, triangle	New Signs and Symbols: AAS angle angle side, ASA angle side angle, ° degrees, is congruent to, perpendicular to, SAS side angle side, square root symbol, SSA side side angle, SSS side side side, - subtraction	New Signs and Symbols: cos cosine, sin sine, tan tangent

Explanatory Notes



Mathematics

Goal: Geometry

RIT Score Range:

261 - 270

Skills and concepts to Enhance (73% Probability*) 251 - 260	Skills and Concepts to Develop (50% Probability*) 261 - 270	Skills and Concepts to Introduce (27% Probability*) > 270
Geometric Measurement and Relationships	Geometric Measurement and Relationships	Geometric Measurement and Relationships
Determines the slope of perpendicular lines	Defines pi and knows common estimates (3.14 and 22/7)	
Determines slope from an equation (analysis)	Solves real-world problems involving surface area	
Using the slope of an equation, identifies parallel and perpendicular lines	Using the slope of an equation, identifies parallel and perpendicular lines	
Determines the midpoint of a line on a coordinate grid	Determines the slope of perpendicular lines	
Determines an endpoint of a line segment on a coordinate grid, given the midpoint and the other endpoint	Determines slope from an equation (analysis) Solves problems involving complex figures (e.g., triangle,	
Determines the circumference when given the area of a circle (or vice versa)	parallelogram)	
Determines the area of a figure when plotting ordered pairs without a grid		
Determines the area of a parallelogram, given a labeled diagram		
Calculate the height of a trapezoid, given the area, without the formula given (metric)		
Determines the diameter or radius when given the area of a circle (metric units)		
Solves problems involving complex figures (e.g., triangle, parallelogram)		
Solves complex problems involving inscribed figures		
Solves real-world problems involving surface area		
Calculates the length of one side of a cube, given the volume (customary units)		
Determines the volume of a cylinder		
Calculates the radius of a sphere, given the volume and formula (metric units)		
Solves real-world problems comparing volumes of figures		
Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side		
Classifies polygons by properties		
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
Solves problems involving properties of similar triangles (e.g., using geometric mean, Triangle Proportionality Theorem)	Uses trigonometric methods to solve mathematical problems involving triangles	Uses trigonometric methods to solve mathematical problems involving triangles
Determines the coordinates of the dilation of a figure on a coordinate graph	Uses the properties of 30-60-90 triangles to solve problems Determines sine of an angle in a given right triangle	
Determines the distance between two points	Determines cosine of an angle in a given right triangle	
Uses reasoning to verify properties of parallel and perpendicular lines	Determines tangent of an angle in a given triangle Determines tangent of an angle in a given triangle	
Identifies corresponding and alternate exterior/interior angles	Uses properties of angles to solve mathematical problems	
Uses properties of angles to solve mathematical problems	2000 p. opolius of angles to solve mainsmalled problems	
 Uses picture representations to identify symmetry of plane figures with respect to a point or line 		

Explanatory Notes



Mathematics

RIT Score Range: 261 - 270

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 251 - 260	Skills and Concepts to Develop (50% Probability*) 261 - 270	Skills and Concepts to Introduce (27% Probability*) > 270
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
 Solves problems involving properties of triangles 		
Uses the Pythagorean theorem to solve problems		
 Uses Pythagorean triplets to solve problems 		
 Verifies congruency of triangles using ASA, SAS, SSS, or AAS 		
• Solves problems involving similar polygons (not triangles)		
New Vocabulary: rotational symmetry	New Vocabulary: trigonometric relationship	New Vocabulary: None
New Signs and Symbols: AAS angle angle side, ASA angle side angle, ° degrees, is congruent to, perpendicular to, SAS side angle side, square root symbol, SSA side side angle, SSS side side side, - subtraction	New Signs and Symbols: cos cosine, sin sine, tan tangent	New Signs and Symbols: None

Explanatory Notes



Mathematics RIT Score Range: > 270

Goal: Geometry

Skills and concepts to Enhance (73% Probability*) 261 - 270	Skills and Concepts to Develop (50% Probability*) > 270
Geometric Measurement and Relationships	Geometric Measurement and Relationships
 Defines pi and knows common estimates (3.14 and 22/7) 	
 Solves real-world problems involving surface area 	
 Using the slope of an equation, identifies parallel and perpendicular lines 	
Determines the slope of perpendicular lines	
 Determines slope from an equation (analysis) 	
 Solves problems involving complex figures (e.g., triangle, parallelogram) 	
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
 Uses trigonometric methods to solve mathematical problems involving triangles 	Uses trigonometric methods to solve mathematical problems involving triangles
• Uses the properties of 30-60-90 triangles to solve problems	
Determines sine of an angle in a given right triangle	
 Determines cosine of an angle in a given right triangle 	
 Determines tangent of an angle in a given triangle 	
 Uses properties of angles to solve mathematical problems 	
New Vocabulary: trigonometric relationship	New Vocabulary: None
New Signs and Symbols: cos cosine, sin sine, tan tangent	New Signs and Symbols: None

Explanatory Notes