DesCartes: A Continuum of Learning®

Mathematics
Goal: Geometry

NWEA
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RIT Score Range: 231 - 240
Statements Last Updated: Mar 10, 2014

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
• Determines coordinates of geometric figures in the first quadrant	• Measures length to the nearest millimeter	• Determines slope from an equation (analysis)
• Measures length to the nearest millimeter	• Solves problems involving the perimeter of irregular or complex shapes	• Determines the midpoint of a line on a coordinate grid
• Determines the perimeter of a figure using non-standard units	• Describes the change in perimeter when dimensions of an object are altered	• Determines the figure when plotting ordered pairs
• Solves problems involving the perimeter of squares, rectangles, or triangles	• Identifies the formula for perimeter with a variable	• 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	• Determines the circumference when given the diameter or radius (or vice versa)	• Determines the circumference when given the diameter or radius (or vice versa)
• Describes the change in perimeter when dimensions of an object are altered	• 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)
• Describes the change in area of a triangle when 1 dimension of an object is altered (metric units)	• Knows the relationship between radius, diameter, and circumference	• Determines the area of a triangle without the formula
• Calculates the area of a rectangle, given labeled sides (customary units)	• Compares area of numerous triangles	• 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)	• Determines the area of a triangle drawn on a grid	• 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	• Determines the area of a triangle, given the formula	• Describes the change in area of a rectangle when dimensions of an object are altered
• Calculates the base or height of a parallelogram, given the area and formula (metric)	• Calculates the area of a rectangle, given labeled sides (customary units)	• Determines the area of a parallelogram, given a labeled diagram
• Determines the area of irregular shapes (customary units)	• Determines the length or width of a rectangle, given the area (metric units)	• Solves problems involving area of a circle
• Calculates area and perimeter of a rectangle (customary 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)
• Calculates the volume of rectangular solids	• Solves simple problems involving the area of a square or rectangle	• Solves problems comparing areas of different polygons
• Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units)	• Determines the area of a parallelogram, given a labeled diagram	• Determines the area of irregular shapes (customary units)
• Identifies rays	• Calculates the base or height of a parallelogram, given the area and formula (metric)	• Calculates the area of irregular shapes (metric units)
• Determines which lines are perpendicular (analysis)	• Determines the area of a trapezoid, given the formula (metric units)	• Solves complex problems involving inscribed figures
• Identifies and determines missing angle measures for supplementary angles	• Solves problems comparing areas of different polygons	• Determines the surface area of rectangular solids
• Identifies acute angles	• Determines the area of irregular shapes (customary units)	• Determines the effects of changing dimensions on volume (no units)
• Classifies equilateral triangles	• Understands the procedure for finding the area and surface area of figures	• Identifies and determines missing angle measures for complementary angles
• Identifies and names a rhombus	• Calculates the volume of rectangular solids	• Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side
• Identifies and names a quadrilateral	• Calculates the length, width, or height of a rectangular prism, given the area (customary units)	
• Compares polygons by properties	• Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units)	
• Identifies properties of quadrilaterals	• Determines which lines are perpendicular (analysis)	
• Classifies polygons by type of angle	• Classifies isosceles triangles	
• Identifies the number of edges on rectangular prisms	• Classifies scalene triangles	
• Uses similarity to solve problems using scale drawings	• Identifies properties of circles	
• Determines an appropriate scale for representing an object in a scale drawing	• Compares polygons by properties	
	• Identifies properties of quadrilaterals	

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
	• Uses similarity 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	
Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
• 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 geometric transformations (rotations) • Identifies geometric transformations (translations) • Identifies geometric transformations (reflections)	• Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles • Recognizes the interior angle relationships of triangles • 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) • Identifies geometric transformations (reflections) • Determines whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation	• 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 • 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 • Determines the new coordinates of a transformed geometric figure
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, l 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, π 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