

Skills and Concepts to Develop (50% Probability*) < 161	Skills and Concepts to Introduce (27% Probability*) 161 - 170
Geometric Measurement and Relationships <ul style="list-style-type: none"> • Identifies spatial sense concepts (e.g., outside, inside, between, over, under, above, below, behind, in front, middle) • Identifies and names a circle 	Geometric Measurement and Relationships <ul style="list-style-type: none"> • Sorts solid figures and objects according to attributes • Identifies and names a cone • 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 <ul style="list-style-type: none"> • Identifies figures that are the same size and shape 	Congruence, Similarity, Right Triangles, & Trig <ul style="list-style-type: none"> • Identifies figures that are the same size and shape
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> corner, flat
<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> None

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

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
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Identifies spatial sense concepts (e.g., outside, inside, between, over, under, above, below, behind, in front, middle) Identifies and names a circle 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Sorts solid figures and objects according to attributes Identifies and names a cone 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 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Identifies and names a triangle Recognizes geometric shapes in real-world objects 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 Measures length with customary measures to the inch mark Determines the area of irregular shapes by counting square units
<p>Congruence, Similarity, Right Triangles, & Trig</p>	<p>Congruence, Similarity, Right Triangles, & Trig</p>	<p>Congruence, Similarity, Right Triangles, & Trig</p>
<ul style="list-style-type: none"> Identifies figures that are the same size and shape 	<ul style="list-style-type: none"> Identifies figures that are the same size and shape 	<ul style="list-style-type: none"> Identifies figures that are similar
<p><i>New Vocabulary:</i> None</p>	<p><i>New Vocabulary:</i> corner, flat</p>	<p><i>New Vocabulary:</i> geometric figure, similar</p>
<p><i>New Signs and Symbols:</i> None</p>	<p><i>New Signs and Symbols:</i> None</p>	<p><i>New Signs and Symbols:</i> None</p>

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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
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> • Sorts solid figures and objects according to attributes • Identifies and names a cone • 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 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> • Identifies and names a triangle • Recognizes geometric shapes in real-world objects • 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 • Measures length with customary measures to the inch mark • Determines the area of irregular shapes by counting square units 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> • 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
<p>Congruence, Similarity, Right Triangles, & Trig</p>	<p>Congruence, Similarity, Right Triangles, & Trig</p>	<p>Congruence, Similarity, Right Triangles, & Trig</p>
<ul style="list-style-type: none"> • Identifies figures that are the same size and shape 	<ul style="list-style-type: none"> • Identifies figures that are similar 	<ul style="list-style-type: none"> • Identifies plane figures with line symmetry • Identifies congruent figures • Identifies figures that are similar • Identifies transformations of plane figures (rotations/turns)
<p><i>New Vocabulary:</i> corner, flat</p>	<p><i>New Vocabulary:</i> geometric figure, similar</p>	<p><i>New Vocabulary:</i> estimation, millimeter, symmetry</p>
<p><i>New Signs and Symbols:</i> None</p>	<p><i>New Signs and Symbols:</i> None</p>	<p><i>New Signs and Symbols:</i> None</p>

Explanatory Notes

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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
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Identifies and names a triangle Recognizes geometric shapes in real-world objects 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 Measures length with customary measures to the inch mark Determines the area of irregular shapes by counting square units 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> 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 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> 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 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
<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> Identifies figures that are similar 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> Identifies plane figures with line symmetry Identifies congruent figures Identifies figures that are similar Identifies transformations of plane figures (rotations/turns) 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> 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)
<p><i>New Vocabulary:</i> geometric figure, similar</p>	<p><i>New Vocabulary:</i> estimation, millimeter, symmetry</p>	<p><i>New Vocabulary:</i> face, intersect, large, parallel, vertical line</p>
<p><i>New Signs and Symbols:</i> None</p>	<p><i>New Signs and Symbols:</i> None</p>	<p><i>New Signs and Symbols:</i> \$ dollar sign, ft feet, in. inch, m meter/metre, yd yard</p>

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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
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> 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 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> 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 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 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> 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 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
<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> Identifies plane figures with line symmetry Identifies congruent figures Identifies figures that are similar Identifies transformations of plane figures (rotations/turns) 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> 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) 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> Classifies plane figures by the number of lines of symmetry Identifies congruent polygons and their corresponding sides and angles
<p><i>New Vocabulary:</i> estimation, millimeter, symmetry</p>	<p><i>New Vocabulary:</i> face, intersect, large, parallel, vertical line</p>	<p><i>New Vocabulary:</i> cubic centimeter, cubic unit, edge, larger, parallel line, regular polygon, trapezoid</p>
<p><i>New Signs and Symbols:</i> None</p>	<p><i>New Signs and Symbols:</i> \$ dollar sign, ft feet, in. inch, m meter/metre, yd yard</p>	<p><i>New Signs and Symbols:</i> cm centimeter/centimetre, ° degrees, g gram</p>

Explanatory Notes

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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
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> • 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 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 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> • 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 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 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> • 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) • 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 obtuse angles • Identifies and names a trapezoid • Identifies and names a rhombus • Identifies and names a quadrilateral
<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • Identifies plane figures with line symmetry • Identifies congruent figures • Identifies congruent polygons and their corresponding sides and angles 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • Classifies plane figures by the number of lines of symmetry • Identifies congruent polygons and their corresponding sides and angles 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • Identifies geometric transformations (translations) • Identifies geometric transformations (rotations) • Identifies similar and congruent triangles

Explanatory Notes

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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
<ul style="list-style-type: none"> Identifies the number of lines of symmetry in plane figures Identifies transformations of plane figures (reflections/flips) 		<ul style="list-style-type: none"> Uses similar figures to construct ratios and solve for a missing side
<i>New Vocabulary:</i> face, intersect, large, parallel, vertical line	<i>New Vocabulary:</i> cubic centimeter, cubic unit, edge, larger, parallel line, regular polygon, trapezoid	<i>New Vocabulary:</i> acute angle, congruent angle, cord, dilation, obtuse angle, straight angle, transformation
<i>New Signs and Symbols:</i> \$ dollar sign, ft feet, in. inch, m meter/metre, yd yard	<i>New Signs and Symbols:</i> cm centimeter/centimetre, ° degrees, g gram	<i>New Signs and Symbols:</i> 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

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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
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> • 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 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 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> • 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) • 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 obtuse angles • Identifies and names a trapezoid • Identifies and names a rhombus • Identifies and names a quadrilateral 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> • Identifies rays • Determines coordinates of geometric figures in the first quadrant • Measures length to the nearest millimeter • Determines the perimeter of a figure using non-standard units • Solves problems involving the perimeter of squares, rectangles, or triangles • Solves problems involving the perimeter of irregular or complex shapes • Describes the change in perimeter when dimensions of an object are altered • Describes the change in area of a triangle when 1 dimension of an object is altered (metric units) • Calculates the area of a rectangle, given labeled sides (customary units) • Determines the length or width of a rectangle, given the area (metric units) • Solves simple problems involving the area of a square or rectangle • Calculates the base or height of a parallelogram, given the area and formula (metric) • Determines the area of irregular shapes (customary units) • Calculates area and perimeter of a rectangle (customary units) • Calculates the volume of rectangular solids • Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units) • Determines which lines are perpendicular (analysis) • Identifies and determines missing angle measures for supplementary angles • Identifies acute angles • Classifies equilateral triangles • Identifies and names a rhombus • Identifies and names a quadrilateral • Compares polygons by properties • Identifies properties of quadrilaterals • Classifies polygons by type of angle • Identifies the number of edges on rectangular prisms • Uses similarity to solve problems using scale drawings • Determines an appropriate scale for representing an object in a scale drawing
<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • Classifies plane figures by the number of lines of symmetry • Identifies congruent polygons and their corresponding sides and angles 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • Identifies geometric transformations (translations) • Identifies geometric transformations (rotations) 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • Identifies geometric transformations (reflections) • Identifies geometric transformations (rotations)

Explanatory Notes

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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
	<ul style="list-style-type: none"> • Identifies similar and congruent triangles • Uses similar figures to construct ratios and solve for a missing side 	<ul style="list-style-type: none"> • 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
<i>New Vocabulary:</i> cubic centimeter, cubic unit, edge, larger, parallel line, regular polygon, trapezoid	<i>New Vocabulary:</i> acute angle, congruent angle, cord, dilation, obtuse angle, straight angle, transformation	<i>New Vocabulary:</i> cubic meter, interior angle, long, scale factor
<i>New Signs and Symbols:</i> cm centimeter/centimetre, ° degrees, g gram	<i>New Signs and Symbols:</i> 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	<i>New Signs and Symbols:</i> () ordered pair, feet, h height, inches, = is equal to, = is equal to, l length, x multiplication, : ratio, V volume, w width

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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
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> 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) 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 obtuse angles Identifies and names a trapezoid Identifies and names a rhombus Identifies and names a quadrilateral 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Identifies rays Determines coordinates of geometric figures in the first quadrant Measures length to the nearest millimeter Determines the perimeter of a figure using non-standard units Solves problems involving the perimeter of squares, rectangles, or triangles Solves problems involving the perimeter of irregular or complex shapes Describes the change in perimeter when dimensions of an object are altered Describes the change in area of a triangle when 1 dimension of an object is altered (metric units) Calculates the area of a rectangle, given labeled sides (customary units) Determines the length or width of a rectangle, given the area (metric units) Solves simple problems involving the area of a square or rectangle Calculates the base or height of a parallelogram, given the area and formula (metric) Determines the area of irregular shapes (customary units) Calculates area and perimeter of a rectangle (customary units) Calculates the volume of rectangular solids Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units) Determines which lines are perpendicular (analysis) Identifies and determines missing angle measures for supplementary angles Identifies acute angles Classifies equilateral triangles Identifies and names a rhombus Identifies and names a quadrilateral Compares polygons by properties Identifies properties of quadrilaterals Classifies polygons by type of angle Identifies the number of edges on rectangular prisms Uses similarity to solve problems using scale drawings Determines an appropriate scale for representing an object in a scale drawing 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Solves problems involving the perimeter of irregular or complex shapes Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units) Determines which lines are perpendicular (analysis) Classifies isosceles triangles Classifies scalene triangles Identifies properties of circles Compares polygons by properties Identifies properties of quadrilaterals 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 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) Knows 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 labeled sides (customary units) Determines the length or width of a rectangle, given the area (metric units) Describes the change in area of a rectangle when dimensions of an object are altered Solves simple problems involving the area of a square or rectangle Determines the area of a parallelogram, given a labeled diagram Calculates the base or height of a parallelogram, given the area and formula (metric) 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

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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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 	Congruence, Similarity, Right Triangles, & Trig <ul style="list-style-type: none"> • 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 	Congruence, Similarity, Right Triangles, & Trig <ul style="list-style-type: none"> • 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)
<i>New Vocabulary:</i> acute angle, congruent angle, cord, dilation, obtuse angle, straight angle, transformation	<i>New Vocabulary:</i> cubic meter, interior angle, long, scale factor	<i>New Vocabulary:</i> None
<i>New Signs and Symbols:</i> 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	<i>New Signs and Symbols:</i> () ordered pair, feet, h height, inches, = is equal to, = is equal to, l length, x multiplication, : ratio, V volume, w width	<i>New Signs and Symbols:</i> () order of operations, + addition, C circumference, congruent segment symbol, d diameter, x multiplication, P perimeter, pi, r radius

Explanatory Notes

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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
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Identifies rays Determines coordinates of geometric figures in the first quadrant Measures length to the nearest millimeter Determines the perimeter of a figure using non-standard units Solves problems involving the perimeter of squares, rectangles, or triangles Solves problems involving the perimeter of irregular or complex shapes Describes the change in perimeter when dimensions of an object are altered Describes the change in area of a triangle when 1 dimension of an object is altered (metric units) Calculates the area of a rectangle, given labeled sides (customary units) Determines the length or width of a rectangle, given the area (metric units) Solves simple problems involving the area of a square or rectangle Calculates the base or height of a parallelogram, given the area and formula (metric) Determines the area of irregular shapes (customary units) Calculates area and perimeter of a rectangle (customary units) Calculates the volume of rectangular solids Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units) Determines which lines are perpendicular (analysis) Identifies and determines missing angle measures for supplementary angles Identifies acute angles Classifies equilateral triangles Identifies and names a rhombus Identifies and names a quadrilateral Compares polygons by properties Identifies properties of quadrilaterals Classifies polygons by type of angle Identifies the number of edges on rectangular prisms Uses similarity to solve problems using scale drawings Determines an appropriate scale for representing an object in a scale drawing 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Solves problems involving the perimeter of irregular or complex shapes Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units) Determines which lines are perpendicular (analysis) Classifies isosceles triangles Classifies scalene triangles Identifies properties of circles Compares polygons by properties Identifies properties of quadrilaterals 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 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) Knows 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 labeled sides (customary units) Determines the length or width of a rectangle, given the area (metric units) Describes the change in area of a rectangle when dimensions of an object are altered Solves simple problems involving the area of a square or rectangle Determines the area of a parallelogram, given a labeled diagram Calculates the base or height of a parallelogram, given the area and formula (metric) 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) 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Calculates the area of irregular shapes (metric units) Determines slope from an equation (analysis) Determines the midpoint of a line on a coordinate grid Determines the figure when plotting ordered pairs Computes and interprets the midpoint, given a set of ordered pairs (horizontal and vertical lines) 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) Determines the area of a triangle without the formula Determines the area of a figure when plotting ordered pairs without a grid Solves problems involving area of a rectangle and converts to larger or smaller units (customary) Describes the change in area of a rectangle when dimensions of an object are altered Determines the area of a parallelogram, given a labeled diagram Solves problems involving area of a circle Determines the diameter or radius when given the area of a circle (metric units) Solves problems comparing areas of different polygons Determines the area of irregular shapes (customary units) Solves complex problems involving inscribed figures Determines the surface area of rectangular solids Determines the effects of changing dimensions on volume (no units) Identifies and determines missing angle measures for complementary angles Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

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 <ul style="list-style-type: none"> • 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) 	Geometric Measurement and Relationships
Congruence, Similarity, Right Triangles, & Trig <ul style="list-style-type: none"> • 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 	Congruence, Similarity, Right Triangles, & Trig <ul style="list-style-type: none"> • 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) 	Congruence, Similarity, Right Triangles, & Trig <ul style="list-style-type: none"> • 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
<i>New Vocabulary:</i> cubic meter, interior angle, long, scale factor	<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> y-axis
<i>New Signs and Symbols:</i> () ordered pair, feet, h height, inches, = is equal to, = is equal to, l length, x multiplication, : ratio, V volume, w width	<i>New Signs and Symbols:</i> () order of operations, + addition, C circumference, congruent segment symbol, d diameter, x multiplication, P perimeter, pi, r radius	<i>New Signs and Symbols:</i> A area, b base, km kilometer/kilometre, line symbol, - negative number, parallel symbol, segment overbar, sq square, triangle

Explanatory Notes

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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
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Solves problems involving the perimeter of irregular or complex shapes Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units) Determines which lines are perpendicular (analysis) Classifies isosceles triangles Classifies scalene triangles Identifies properties of circles Compares polygons by properties Identifies properties of quadrilaterals 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 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) Knows 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 labeled sides (customary units) Determines the length or width of a rectangle, given the area (metric units) Describes the change in area of a rectangle when dimensions of an object are altered Solves simple problems involving the area of a square or rectangle Determines the area of a parallelogram, given a labeled diagram Calculates the base or height of a parallelogram, given the area and formula (metric) 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) 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Calculates the area of irregular shapes (metric units) Determines slope from an equation (analysis) Determines the midpoint of a line on a coordinate grid Determines the figure when plotting ordered pairs Computes and interprets the midpoint, given a set of ordered pairs (horizontal and vertical lines) 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) Determines the area of a triangle without the formula Determines the area of a figure when plotting ordered pairs without a grid Solves problems involving area of a rectangle and converts to larger or smaller units (customary) Describes the change in area of a rectangle when dimensions of an object are altered Determines the area of a parallelogram, given a labeled diagram Solves problems involving area of a circle Determines the diameter or radius when given the area of a circle (metric units) Solves problems comparing areas of different polygons Determines the area of irregular shapes (customary units) Solves complex problems involving inscribed figures Determines the surface area of rectangular solids Determines the effects of changing dimensions on volume (no units) Identifies and determines missing angle measures for complementary angles Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Determines the slope of perpendicular lines Determines slope from an equation (analysis) Using the slope of an equation, identifies parallel and perpendicular lines Determines the midpoint of a line on a coordinate grid Determines an endpoint of a line segment on a coordinate grid, given the midpoint and the other endpoint Determines the circumference when given the area of a circle (or vice versa) 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

Explanatory Notes

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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
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> 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) 	<p>Geometric Measurement and Relationships</p>	<p>Geometric Measurement and Relationships</p>
<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> 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) 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> 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 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> 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)
<p><i>New Vocabulary:</i> None</p>	<p><i>New Vocabulary:</i> y-axis</p>	<p><i>New Vocabulary:</i> rotational symmetry</p>
<p><i>New Signs and Symbols:</i> () order of operations, + addition, C circumference, congruent segment symbol, d diameter, x multiplication, P perimeter, pi, r radius</p>	<p><i>New Signs and Symbols:</i> A area, b base, km kilometer/kilometre, line symbol, - negative number, parallel symbol, segment overbar, sq square, triangle</p>	<p><i>New Signs and Symbols:</i> 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</p>

Explanatory Notes

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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
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Calculates the area of irregular shapes (metric units) Determines slope from an equation (analysis) Determines the midpoint of a line on a coordinate grid Determines the figure when plotting ordered pairs Computes and interprets the midpoint, given a set of ordered pairs (horizontal and vertical lines) 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) Determines the area of a triangle without the formula Determines the area of a figure when plotting ordered pairs without a grid Solves problems involving area of a rectangle and converts to larger or smaller units (customary) Describes the change in area of a rectangle when dimensions of an object are altered Determines the area of a parallelogram, given a labeled diagram Solves problems involving area of a circle Determines the diameter or radius when given the area of a circle (metric units) Solves problems comparing areas of different polygons Determines the area of irregular shapes (customary units) Solves complex problems involving inscribed figures Determines the surface area of rectangular solids Determines the effects of changing dimensions on volume (no units) Identifies and determines missing angle measures for complementary angles Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> Determines the slope of perpendicular lines Determines slope from an equation (analysis) Using the slope of an equation, identifies parallel and perpendicular lines Determines the midpoint of a line on a coordinate grid Determines an endpoint of a line segment on a coordinate grid, given the midpoint and the other endpoint Determines the circumference when given the area of a circle (or vice versa) 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 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> 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)
<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> 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 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> 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 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> 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

Explanatory Notes

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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
<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • 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 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • 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) 	<p>Congruence, Similarity, Right Triangles, & Trig</p>
<p><i>New Vocabulary:</i> y-axis</p>	<p><i>New Vocabulary:</i> rotational symmetry</p>	<p><i>New Vocabulary:</i> trigonometric relationship</p>
<p><i>New Signs and Symbols:</i> A area, b base, km kilometer/kilometre, line symbol, - negative number, parallel symbol, segment overbar, sq square, triangle</p>	<p><i>New Signs and Symbols:</i> 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</p>	<p><i>New Signs and Symbols:</i> cos cosine, sin sine, tan tangent</p>

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

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
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> • Determines the slope of perpendicular lines • Determines slope from an equation (analysis) • Using the slope of an equation, identifies parallel and perpendicular lines • Determines the midpoint of a line on a coordinate grid • Determines an endpoint of a line segment on a coordinate grid, given the midpoint and the other endpoint • Determines the circumference when given the area of a circle (or vice versa) • 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 	<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> • 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) 	<p>Geometric Measurement and Relationships</p>
<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • 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 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • 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 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • Uses trigonometric methods to solve mathematical problems involving triangles

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

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 <ul style="list-style-type: none"> • 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) 	Congruence, Similarity, Right Triangles, & Trig	Congruence, Similarity, Right Triangles, & Trig
<i>New Vocabulary:</i> rotational symmetry	<i>New Vocabulary:</i> trigonometric relationship	<i>New Vocabulary:</i> None
<i>New Signs and Symbols:</i> 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	<i>New Signs and Symbols:</i> cos cosine, sin sine, tan tangent	<i>New Signs and Symbols:</i> None

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

Skills and concepts to Enhance (73% Probability*) 261 - 270	Skills and Concepts to Develop (50% Probability*) > 270
<p>Geometric Measurement and Relationships</p> <ul style="list-style-type: none"> • 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) 	<p>Geometric Measurement and Relationships</p>
<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • 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 	<p>Congruence, Similarity, Right Triangles, & Trig</p> <ul style="list-style-type: none"> • Uses trigonometric methods to solve mathematical problems involving triangles
<p><i>New Vocabulary:</i> trigonometric relationship</p>	<p><i>New Vocabulary:</i> None</p>
<p><i>New Signs and Symbols:</i> cos cosine, sin sine, tan tangent</p>	<p><i>New Signs and Symbols:</i> None</p>

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.