

Skills and Concepts to Develop (50% Probability*) < 161	Skills and Concepts to Introduce (27% Probability*) 161 - 170
Geometric Measurement and Dimension	Geometric Measurement and Dimension
<ul style="list-style-type: none"> • Identifies and names a circle • Identifies spatial sense concepts (e.g., outside, inside, between, over, under, above, below, behind, in front, middle) 	<ul style="list-style-type: none"> • Tells time to the nearest hour • 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 • Compares open and closed figures • Sorts solid figures and objects according to attributes • Identifies position of shapes (e.g., inside, outside, between) • Measures length with metric measures to the centimeter mark • Tells time to the nearest half hour • Identifies and names a triangle • Identifies and names a square • Identifies and names a rectangle • Identifies sides and vertices of polygons • Identifies and names a cone
Congruence, Similarity, Transformations, & Trig	Congruence, Similarity, Transformations, & Trig
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> corner, flat
<i>New Signs and Symbols:</i> None	<i>New Signs and Symbols:</i> : used with time

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 Dimension</p> <ul style="list-style-type: none"> Identifies and names a circle Identifies spatial sense concepts (e.g., outside, inside, between, over, under, above, below, behind, in front, middle) 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> Tells time to the nearest hour 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 Compares open and closed figures Sorts solid figures and objects according to attributes Identifies position of shapes (e.g., inside, outside, between) Measures length with metric measures to the centimeter mark Tells time to the nearest half hour Identifies and names a triangle Identifies and names a square Identifies and names a rectangle Identifies sides and vertices of polygons Identifies and names a cone 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> Determines the area of irregular shapes by counting square units 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 Tells time to the nearest hour Tells time to the nearest half hour Tells time to the nearest 5 minutes Identifies and names a triangle Identifies and names a square Identifies and names a cube Recognizes geometric shapes in real-world objects
<p>Congruence, Similarity, Transformations, & Trig</p>	<p>Congruence, Similarity, Transformations, & Trig</p>	<p>Congruence, Similarity, Transformations, & Trig</p> <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, morning, ray, similar</p>
<p><i>New Signs and Symbols:</i> None</p>	<p><i>New Signs and Symbols:</i> : used with time</p>	<p><i>New Signs and Symbols:</i> a.m., p.m.</p>

Explanatory Notes

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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
Geometric Measurement and Dimension	Geometric Measurement and Dimension	Geometric Measurement and Dimension
<ul style="list-style-type: none"> Tells time to the nearest hour 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 Compares open and closed figures Sorts solid figures and objects according to attributes Identifies position of shapes (e.g., inside, outside, between) Measures length with metric measures to the centimeter mark Tells time to the nearest half hour Identifies and names a triangle Identifies and names a square Identifies and names a rectangle Identifies sides and vertices of polygons Identifies and names a cone 	<ul style="list-style-type: none"> Determines the area of irregular shapes by counting square units 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 Tells time to the nearest hour Tells time to the nearest half hour Tells time to the nearest 5 minutes Identifies and names a triangle Identifies and names a square Identifies and names a cube Recognizes geometric shapes in real-world objects 	<ul style="list-style-type: none"> Selects and uses the appropriate type and size of unit in customary system (length) Measures length with non-standard units Uses a variety of non-standard units to measure the same length Identifies the correct time, given the words, and vice versa Determines elapsed clock time Determines elapsed time under 1 hour or to the hour Determines elapsed time involving whole hours, whole days, whole years Tells time to the nearest 5 minutes 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 Identifies and names a sphere
Congruence, Similarity, Transformations, & Trig	Congruence, Similarity, Transformations, & Trig	Congruence, Similarity, Transformations, & Trig
	<ul style="list-style-type: none"> Identifies figures that are similar 	<ul style="list-style-type: none"> Identifies congruent figures Identifies figures that are similar Identifies plane figures with line symmetry Identifies transformations of plane figures (rotations/turns)
<i>New Vocabulary:</i> corner, flat	<i>New Vocabulary:</i> geometric figure, morning, ray, similar	<i>New Vocabulary:</i> clock, estimation, half past, how much time, noon, o'clock, quarter past, quarter to, symmetry, what time
<i>New Signs and Symbols:</i> : used with time	<i>New Signs and Symbols:</i> a.m., p.m.	<i>New Signs and Symbols:</i> in. inch, : used with time, : used with time

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 Dimension</p> <ul style="list-style-type: none"> Determines the area of irregular shapes by counting square units 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 Tells time to the nearest hour Tells time to the nearest half hour Tells time to the nearest 5 minutes Identifies and names a triangle Identifies and names a square Identifies and names a cube Recognizes geometric shapes in real-world objects 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> Selects and uses the appropriate type and size of unit in customary system (length) Measures length with non-standard units Uses a variety of non-standard units to measure the same length Identifies the correct time, given the words, and vice versa Determines elapsed clock time Determines elapsed time under 1 hour or to the hour Determines elapsed time involving whole hours, whole days, whole years Tells time to the nearest 5 minutes 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 Identifies and names a sphere 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> Selects and uses the appropriate type and size of unit in customary system (length) Measures length with non-standard units Identifies the correct time, given the words, and vice versa Determines elapsed clock time Tells time to the nearest quarter hour Determines elapsed time involving whole hours, whole days, whole years Tells time to the nearest 1 minute Solves simple problems involving elapsed time, with the conversion of hours 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 Sorts 2-D shapes and objects according to their attributes 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
<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> Identifies figures that are similar 	<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> Identifies congruent figures Identifies figures that are similar Identifies plane figures with line symmetry Identifies transformations of plane figures (rotations/turns) 	<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> Identifies congruent figures Identifies congruent polygons and their corresponding sides and angles Identifies plane figures with line symmetry Identifies the number of lines of symmetry in plane figures
<p><i>New Vocabulary:</i> geometric figure, morning, ray, similar</p>	<p><i>New Vocabulary:</i> clock, estimation, half past, how much time, noon, o'clock, quarter past, quarter to, symmetry, what time</p>	<p><i>New Vocabulary:</i> face, intersect, kite, large, parallel, vertical line</p>
<p><i>New Signs and Symbols:</i> a.m., p.m.</p>	<p><i>New Signs and Symbols:</i> in. inch, : used with time, : used with time</p>	<p><i>New Signs and Symbols:</i> \$ dollar sign, ft feet, " inches, = is equal to, m meter/metre, yd yard</p>

Explanatory Notes

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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 Dimension</p> <ul style="list-style-type: none"> • Selects and uses the appropriate type and size of unit in customary system (length) • Measures length with non-standard units • Uses a variety of non-standard units to measure the same length • Identifies the correct time, given the words, and vice versa • Determines elapsed clock time • Determines elapsed time under 1 hour or to the hour • Determines elapsed time involving whole hours, whole days, whole years • Tells time to the nearest 5 minutes • 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 • Identifies and names a sphere 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> • Selects and uses the appropriate type and size of unit in customary system (length) • Measures length with non-standard units • Identifies the correct time, given the words, and vice versa • Determines elapsed clock time • Tells time to the nearest quarter hour • Determines elapsed time involving whole hours, whole days, whole years • Tells time to the nearest 1 minute • Solves simple problems involving elapsed time, with the conversion of hours • 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 • Sorts 2-D shapes and objects according to their attributes • 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 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> • Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system • Determines the distance between points, following grid lines, in the first quadrant on a coordinate graph (as in city blocks) • Uses the appropriate unit of measure for length • Measures length to the nearest centimeter • Solves simple problems involving elapsed time, with the conversion of hours • 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 • Classifies polygons by number of sides • Classifies polygons by sides and angles • Identifies corners (vertices) of cubes • Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners) • Identifies a cube from a net • Identifies and names a cylinder
<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> • Identifies congruent figures • Identifies figures that are similar • Identifies plane figures with line symmetry • Identifies transformations of plane figures (rotations/turns) 	<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> • Identifies congruent figures • Identifies congruent polygons and their corresponding sides and angles • Identifies plane figures with line symmetry • Identifies the number of lines of symmetry in plane figures 	<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> • Identifies congruent polygons and their corresponding sides and angles • Classifies plane figures by the number of lines of symmetry
<p><i>New Vocabulary:</i> clock, estimation, half past, how much time, noon, o'clock, quarter past, quarter to, symmetry, what time</p> <p><i>New Signs and Symbols:</i> in. inch, : used with time, : used with time</p>	<p><i>New Vocabulary:</i> face, intersect, kite, large, parallel, vertical line</p> <p><i>New Signs and Symbols:</i> \$ dollar sign, ft feet, " inches, = is equal to, m meter/metre, yd yard</p>	<p><i>New Vocabulary:</i> coordinate point, cubic centimeter, cubic unit, edge, larger, parallel line, rectangular box, regular polygon, trapezoid</p> <p><i>New Signs and Symbols:</i> () ordered pair, cm centimeter/centimetre, ° degrees</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 Dimension</p> <ul style="list-style-type: none"> • Selects and uses the appropriate type and size of unit in customary system (length) • Measures length with non-standard units • Identifies the correct time, given the words, and vice versa • Determines elapsed clock time • Tells time to the nearest quarter hour • Determines elapsed time involving whole hours, whole days, whole years • Tells time to the nearest 1 minute • Solves simple problems involving elapsed time, with the conversion of hours • 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 • Sorts 2-D shapes and objects according to their attributes • 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 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> • Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system • Determines the distance between points, following grid lines, in the first quadrant on a coordinate graph (as in city blocks) • Uses the appropriate unit of measure for length • Measures length to the nearest centimeter • Solves simple problems involving elapsed time, with the conversion of hours • 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 • Classifies polygons by number of sides • Classifies polygons by sides and angles • Identifies corners (vertices) of cubes • Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners) • Identifies a cube from a net • Identifies and names a cylinder 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> • Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system • Uses the appropriate unit of measure for length • Solves difficult problems involving elapsed time, with the conversion of hours • 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 rays • Identifies perpendicular lines • 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 • Classifies polygons by type of angle • Identifies corners (vertices) of cubes • Identifies the net which makes a cube-like (open box) figure • Predicts 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
<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> • Identifies congruent figures • Identifies congruent polygons and their corresponding sides and angles 	<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> • Identifies congruent polygons and their corresponding sides and angles • Classifies plane figures by the number of lines of symmetry 	<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> • Identifies similar and congruent triangles • Uses similar figures to construct ratios and solve for a missing side

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, Transformations, & Trig	Congruence, Similarity, Transformations, & Trig	Congruence, Similarity, Transformations, & Trig
<ul style="list-style-type: none"> Identifies plane figures with line symmetry Identifies the number of lines of symmetry in plane figures 		<ul style="list-style-type: none"> Identifies geometric transformations (rotations) Identifies geometric transformations (translations)
<i>New Vocabulary:</i> face, intersect, kite, large, parallel, vertical line	<i>New Vocabulary:</i> coordinate point, cubic centimeter, cubic unit, edge, larger, parallel line, rectangular box, regular polygon, trapezoid	<i>New Vocabulary:</i> acute angle, congruent angle, cord, dilation, how long, obtuse angle, straight angle, transformation, union
<i>New Signs and Symbols:</i> \$ dollar sign, ft feet, " inches, = is equal to, m meter/metre, yd yard	<i>New Signs and Symbols:</i> () ordered pair, cm centimeter/centimetre, ° degrees	<i>New Signs and Symbols:</i> ∠ angle, angle marker (arc), hr hour, ↓ measurement span down, ← measurement span left, → measurement span right, ↑ measurement span up, min minute, mm millimeter/millimetre, • point, right angle marker

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 Dimension</p> <ul style="list-style-type: none"> • Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system • Determines the distance between points, following grid lines, in the first quadrant on a coordinate graph (as in city blocks) • Uses the appropriate unit of measure for length • Measures length to the nearest centimeter • Solves simple problems involving elapsed time, with the conversion of hours • 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 • Classifies polygons by number of sides • Classifies polygons by sides and angles • Identifies corners (vertices) of cubes • Classifies cubes by their properties (e.g., edges with equal lengths, faces with equal areas and congruent shapes, right angle corners) • Identifies a cube from a net • Identifies and names a cylinder 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> • Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system • Uses the appropriate unit of measure for length • Solves difficult problems involving elapsed time, with the conversion of hours • 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 rays • Identifies perpendicular lines • 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 • 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 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> • Solves simple problems involving the area of a square or rectangle • Determines coordinates of geometric figures in the first quadrant • Solves difficult problems involving elapsed time, with the conversion of hours • 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) • 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) • Identifies rays • Determines which lines are perpendicular (analysis) • Identifies and determines missing angle measures for supplementary angles • Identifies acute angles • Recognizes the interior angle relationships of triangles • 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 • Identifies properties of similar figures • Determines an appropriate scale for representing an object in a scale drawing

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, Transformations, & Trig <ul style="list-style-type: none"> • Identifies congruent polygons and their corresponding sides and angles • Classifies plane figures by the number of lines of symmetry 	Congruence, Similarity, Transformations, & Trig <ul style="list-style-type: none"> • Identifies similar and congruent triangles • Uses similar figures to construct ratios and solve for a missing side • Identifies geometric transformations (rotations) • Identifies geometric transformations (translations) 	Congruence, Similarity, Transformations, & Trig <ul style="list-style-type: none"> • Identifies properties of parallel and perpendicular lines • Uses similarity to solve problems using scale drawings • 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)
<i>New Vocabulary:</i> coordinate point, cubic centimeter, cubic unit, edge, larger, parallel line, rectangular box, regular polygon, trapezoid	<i>New Vocabulary:</i> acute angle, congruent angle, cord, dilation, how long, obtuse angle, straight angle, transformation, union	<i>New Vocabulary:</i> cubic meter, cubic millimeter, interior angle, long, scale factor
<i>New Signs and Symbols:</i> () ordered pair, cm centimeter/centimetre, ° degrees	<i>New Signs and Symbols:</i> ∠ angle, angle marker (arc), hr hour, ↓ measurement span down, ← measurement span left, → measurement span right, ↑ measurement span up, min minute, mm millimeter/millimetre, • point, right angle marker	<i>New Signs and Symbols:</i> ' feet, h height, = is equal to, l length, × multiplication, : ratio, segment overbar, V volume, w width

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*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system Uses the appropriate unit of measure for length Solves difficult problems involving elapsed time, with the conversion of hours 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 rays Identifies perpendicular lines 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 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 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> Solves simple problems involving the area of a square or rectangle Determines coordinates of geometric figures in the first quadrant Solves difficult problems involving elapsed time, with the conversion of hours 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) 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) Identifies rays Determines which lines are perpendicular (analysis) Identifies and determines missing angle measures for supplementary angles Identifies acute angles Recognizes the interior angle relationships of triangles 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 Identifies properties of similar figures Determines an appropriate scale for representing an object in a scale drawing 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> Solves problems involving the perimeter of irregular or complex shapes 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) Determines the area of irregular shapes (customary units) 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) Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units) Determines which lines are perpendicular (analysis) Uses properties of angles and figures to solve algebraic problems Recognizes the interior angle relationships of triangles Classifies isosceles triangles Classifies scalene triangles Identifies properties of circles Compares polygons by properties Identifies properties of quadrilaterals

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 Dimension	Geometric Measurement and Dimension	Geometric Measurement and Dimension
		<ul style="list-style-type: none"> 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, Transformations, & Trig <ul style="list-style-type: none"> Identifies similar and congruent triangles Uses similar figures to construct ratios and solve for a missing side Identifies geometric transformations (rotations) Identifies geometric transformations (translations) 	Congruence, Similarity, Transformations, & Trig <ul style="list-style-type: none"> Identifies properties of parallel and perpendicular lines Uses similarity to solve problems using scale drawings 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) 	Congruence, Similarity, Transformations, & Trig <ul style="list-style-type: none"> Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles Identifies properties of congruent triangles Solves problems involving properties of congruent triangles Uses similarity to solve problems using scale drawings Uses similar triangles to construct ratios and solve for a missing side Identifies geometric transformations (dilations) Determines whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation
<i>New Vocabulary:</i> acute angle, congruent angle, cord, dilation, how long, obtuse angle, straight angle, transformation, union	<i>New Vocabulary:</i> cubic meter, cubic millimeter, interior angle, long, scale factor	<i>New Vocabulary:</i> None
<i>New Signs and Symbols:</i> \angle angle, angle marker (arc), hr hour, \downarrow measurement span down, \leftarrow measurement span left, \rightarrow measurement span right, \uparrow measurement span up, min minute, mm millimeter/millimetre, \bullet point, right angle marker	<i>New Signs and Symbols:</i> ' feet, h height, = is equal to, l length, \times multiplication, : ratio, segment overbar, V volume, w width	<i>New Signs and Symbols:</i> () order of operations, + addition, C circumference, congruent segment symbol, d diameter, \cong is congruent to, \times multiplication, P perimeter, π pi, r radius, \triangle triangle

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 Dimension</p> <ul style="list-style-type: none"> Solves simple problems involving the area of a square or rectangle Determines coordinates of geometric figures in the first quadrant Solves difficult problems involving elapsed time, with the conversion of hours 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) 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) Identifies rays Determines which lines are perpendicular (analysis) Identifies and determines missing angle measures for supplementary angles Identifies acute angles Recognizes the interior angle relationships of triangles 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 Identifies properties of similar figures Determines an appropriate scale for representing an object in a scale drawing 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> Solves problems involving the perimeter of irregular or complex shapes 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) Determines the area of irregular shapes (customary units) 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) Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units) Determines which lines are perpendicular (analysis) Uses properties of angles and figures to solve algebraic problems Recognizes the interior angle relationships of triangles Classifies isosceles triangles Classifies scalene triangles Identifies properties of circles Compares polygons by properties Identifies properties of quadrilaterals 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> 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 perimeter of a figure when plotting ordered pairs 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) Determines the area of irregular shapes (customary units) Calculates the area of irregular shapes (metric units) Solves complex problems involving inscribed figures Determines the surface area of rectangular solids Determines the surface area of a cylinder, given a formula (customary units) Determines the effects of changing dimensions on volume (no units) Identifies and determines missing angle measures for complementary angles Uses properties of angles and figures to solve algebraic problems Uses properties of angles to solve mathematical problems Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side Uses the Pythagorean theorem to solve problems Uses Pythagorean triplets to solve problems

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
Geometric Measurement and Dimension	Geometric Measurement and Dimension	Geometric Measurement and Dimension
	<ul style="list-style-type: none"> 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, Transformations, & Trig	Congruence, Similarity, Transformations, & Trig	Congruence, Similarity, Transformations, & Trig
<ul style="list-style-type: none"> Identifies properties of parallel and perpendicular lines Uses similarity to solve problems using scale drawings 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) 	<ul style="list-style-type: none"> Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles Identifies properties of congruent triangles Solves problems involving properties of congruent triangles Uses similarity to solve problems using scale drawings Uses similar triangles to construct ratios and solve for a missing side Identifies geometric transformations (dilations) Determines whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation 	<ul style="list-style-type: none"> 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 Recognizes the exterior angle relationships of triangles 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
<i>New Vocabulary:</i> cubic meter, cubic millimeter, interior angle, long, scale factor	<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> incline, transversal, y-axis
<i>New Signs and Symbols:</i> ' feet, h height, = is equal to, l length, x multiplication, : ratio, segment overbar, V volume, w width	<i>New Signs and Symbols:</i> () order of operations, + addition, C circumference, congruent segment symbol, d diameter, ≅ is congruent to, x multiplication, P perimeter, π pi, r radius, Δ triangle	<i>New Signs and Symbols:</i> A area, b base, km kilometer/kilometre, ↔ line symbol, - negative number, parallel symbol, → ray symbol, sq square

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 Dimension</p> <ul style="list-style-type: none"> Solves problems involving the perimeter of irregular or complex shapes 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) Determines the area of irregular shapes (customary units) 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) Calculates the volume of a rectangular prism, and converts to a different measurement scale (customary units) Determines which lines are perpendicular (analysis) Uses properties of angles and figures to solve algebraic problems Recognizes the interior angle relationships of triangles Classifies isosceles triangles Classifies scalene triangles Identifies properties of circles Compares polygons by properties Identifies properties of quadrilaterals 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> 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 perimeter of a figure when plotting ordered pairs 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) Determines the area of irregular shapes (customary units) Calculates the area of irregular shapes (metric units) Solves complex problems involving inscribed figures Determines the surface area of rectangular solids Determines the surface area of a cylinder, given a formula (customary units) Determines the effects of changing dimensions on volume (no units) Identifies and determines missing angle measures for complementary angles Uses properties of angles and figures to solve algebraic problems Uses properties of angles to solve mathematical problems Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side Uses the Pythagorean theorem to solve problems Uses Pythagorean triplets to solve problems 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> Using the slope of an equation, identifies parallel and perpendicular lines Determines the slope of perpendicular lines Determines the distance between two points 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 problems comparing area to perimeter (analysis) 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 Uses reasoning to verify properties of parallel and perpendicular lines Uses properties of angles to solve mathematical problems Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side Solves problems involving properties of triangles Uses number of sides to find angle measures of polygons Classifies polygons by properties Uses the Pythagorean theorem to solve problems Uses Pythagorean triplets to solve problems

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
Geometric Measurement and Dimension	Geometric Measurement and Dimension	Geometric Measurement and Dimension
<ul style="list-style-type: none"> • 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, Transformations, & Trig	Congruence, Similarity, Transformations, & Trig	Congruence, Similarity, Transformations, & Trig
<ul style="list-style-type: none"> • Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles • Identifies properties of congruent triangles • Solves problems involving properties of congruent triangles • Uses similarity to solve problems using scale drawings • Uses similar triangles to construct ratios and solve for a missing side • Identifies geometric transformations (dilations) • Determines whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation 	<ul style="list-style-type: none"> • 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 • Recognizes the exterior angle relationships of triangles • 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 	<ul style="list-style-type: none"> • Identifies corresponding and alternate exterior/interior angles • Recognizes the exterior angle relationships of triangles • Verifies congruency of triangles using ASA, SAS, SSS, or AAS • Solves problems involving similar polygons (not triangles) • Solves problems involving properties of similar triangles (e.g., using geometric mean, Triangle Proportionality Theorem) • Uses picture representations to identify symmetry of plane figures with respect to a point or line • Determines the coordinates of the dilation of a figure on a coordinate graph
<i>New Vocabulary:</i> None	<i>New Vocabulary:</i> incline, transversal, y-axis	<i>New Vocabulary:</i> rotational symmetry
<i>New Signs and Symbols:</i> () order of operations, + addition, C circumference, congruent segment symbol, d diameter, \cong is congruent to, \times multiplication, P perimeter, π pi, r radius, \triangle triangle	<i>New Signs and Symbols:</i> A area, b base, km kilometer/kilometre, \leftrightarrow line symbol, - negative number, parallel symbol, \rightarrow ray symbol, sq square	<i>New Signs and Symbols:</i> AAS angle angle side, ASA angle side angle, $^\circ$ degrees, \perp perpendicular to, SAS side angle side, square root symbol, SSA side side angle, SSS side side side, - subtraction

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 Dimension</p> <ul style="list-style-type: none"> • 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 perimeter of a figure when plotting ordered pairs • 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) • Determines the area of irregular shapes (customary units) • Calculates the area of irregular shapes (metric units) • Solves complex problems involving inscribed figures • Determines the surface area of rectangular solids • Determines the surface area of a cylinder, given a formula (customary units) • Determines the effects of changing dimensions on volume (no units) • Identifies and determines missing angle measures for complementary angles • Uses properties of angles and figures to solve algebraic problems • Uses properties of angles to solve mathematical problems • Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side • Uses the Pythagorean theorem to solve problems • Uses Pythagorean triplets to solve problems 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> • Using the slope of an equation, identifies parallel and perpendicular lines • Determines the slope of perpendicular lines • Determines the distance between two points • 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 problems comparing area to perimeter (analysis) • 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 • Uses reasoning to verify properties of parallel and perpendicular lines • Uses properties of angles to solve mathematical problems • Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side • Solves problems involving properties of triangles • Uses number of sides to find angle measures of polygons • Classifies polygons by properties • Uses the Pythagorean theorem to solve problems • Uses Pythagorean triplets to solve problems 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> • Using the slope of an equation, identifies parallel and perpendicular lines • Determines the slope of perpendicular lines • Defines pi and knows common estimates (3.14 and 22/7) • Solves problems involving complex figures (e.g., triangle, parallelogram) • Solves real-world problems involving surface area • Uses properties of angles to solve mathematical problems • Uses the properties of 30-60-90 triangles to solve problems
<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> • Uses an indirect method to measure the height of an inaccessible object 	<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> • Identifies corresponding and alternate exterior/interior angles • Recognizes the exterior angle relationships of triangles 	<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> • Determines sine of an angle in a given right triangle • Determines cosine of an angle in a given right triangle

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
Congruence, Similarity, Transformations, & Trig <ul style="list-style-type: none"> Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles Identifies corresponding and alternate exterior/interior angles Recognizes the exterior angle relationships of triangles 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 	Congruence, Similarity, Transformations, & Trig <ul style="list-style-type: none"> Verifies congruency of triangles using ASA, SAS, SSS, or AAS Solves problems involving similar polygons (not triangles) Solves problems involving properties of similar triangles (e.g., using geometric mean, Triangle Proportionality Theorem) Uses picture representations to identify symmetry of plane figures with respect to a point or line Determines the coordinates of the dilation of a figure on a coordinate graph 	Congruence, Similarity, Transformations, & Trig <ul style="list-style-type: none"> Determines tangent of an angle in a given triangle
<i>New Vocabulary:</i> incline, transversal, y-axis	<i>New Vocabulary:</i> rotational symmetry	<i>New Vocabulary:</i> trigonometric relationship
<i>New Signs and Symbols:</i> A area, b base, km kilometer/kilometre, ↔ line symbol, - negative number, parallel symbol, → ray symbol, sq square	<i>New Signs and Symbols:</i> AAS angle angle side, ASA angle side angle, ° degrees, ⊥ 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

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 Dimension</p> <ul style="list-style-type: none"> Using the slope of an equation, identifies parallel and perpendicular lines Determines the slope of perpendicular lines Determines the distance between two points 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 problems comparing area to perimeter (analysis) 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 Uses reasoning to verify properties of parallel and perpendicular lines Uses properties of angles to solve mathematical problems Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side Solves problems involving properties of triangles Uses number of sides to find angle measures of polygons Classifies polygons by properties Uses the Pythagorean theorem to solve problems Uses Pythagorean triplets to solve problems 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> Using the slope of an equation, identifies parallel and perpendicular lines Determines the slope of perpendicular lines Defines pi and knows common estimates (3.14 and 22/7) Solves problems involving complex figures (e.g., triangle, parallelogram) Solves real-world problems involving surface area Uses properties of angles to solve mathematical problems Uses the properties of 30-60-90 triangles to solve problems 	<p>Geometric Measurement and Dimension</p> <ul style="list-style-type: none"> Uses geometric constructions to solve problems
<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> Identifies corresponding and alternate exterior/interior angles Recognizes the exterior angle relationships of triangles 	<p>Congruence, Similarity, Transformations, & Trig</p> <ul style="list-style-type: none"> Determines sine of an angle in a given right triangle Determines cosine of an angle in a given right triangle 	<p>Congruence, Similarity, Transformations, & Trig</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
Congruence, Similarity, Transformations, & Trig <ul style="list-style-type: none"> • Verifies congruency of triangles using ASA, SAS, SSS, or AAS • Solves problems involving similar polygons (not triangles) • Solves problems involving properties of similar triangles (e.g., using geometric mean, Triangle Proportionality Theorem) • Uses picture representations to identify symmetry of plane figures with respect to a point or line • Determines the coordinates of the dilation of a figure on a coordinate graph 	Congruence, Similarity, Transformations, & Trig <ul style="list-style-type: none"> • Determines tangent of an angle in a given triangle 	Congruence, Similarity, Transformations, & 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, 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

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Skills and concepts to Enhance (73% Probability*) 261 - 270	Skills and Concepts to Develop (50% Probability*) > 270
Geometric Measurement and Dimension	Geometric Measurement and Dimension
<ul style="list-style-type: none"> Using the slope of an equation, identifies parallel and perpendicular lines Determines the slope of perpendicular lines Defines pi and knows common estimates (3.14 and 22/7) Solves problems involving complex figures (e.g., triangle, parallelogram) Solves real-world problems involving surface area Uses properties of angles to solve mathematical problems Uses the properties of 30-60-90 triangles to solve problems 	<ul style="list-style-type: none"> Uses geometric constructions to solve problems
Congruence, Similarity, Transformations, & Trig	Congruence, Similarity, Transformations, & Trig
<ul style="list-style-type: none"> 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 	
<i>New Vocabulary:</i> trigonometric relationship	<i>New Vocabulary:</i> None
<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.