

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><b>Geometric Measurement and Relationships</b></p> <ul style="list-style-type: none"> <li>• Determines slope from an equation (analysis)</li> <li>• Determines the midpoint of a line on a coordinate grid</li> <li>• Determines the figure when plotting ordered pairs</li> <li>• Computes and interprets the midpoint, given a set of ordered pairs (horizontal and vertical lines)</li> <li>• Determines the circumference when given the diameter or radius (or vice versa)</li> <li>• Determines the circumference when given the area of a circle (or vice versa)</li> <li>• Determines the area of a triangle without the formula</li> <li>• Determines the area of a figure when plotting ordered pairs without a grid</li> <li>• Solves problems involving area of a rectangle and converts to larger or smaller units (customary)</li> <li>• Describes the change in area of a rectangle when dimensions of an object are altered</li> <li>• Determines the area of a parallelogram, given a labeled diagram</li> <li>• Solves problems involving area of a circle</li> <li>• Determines the diameter or radius when given the area of a circle (metric units)</li> <li>• Solves problems comparing areas of different polygons</li> <li>• Determines the area of irregular shapes (customary units)</li> <li>• Calculates the area of irregular shapes (metric units)</li> <li>• Solves complex problems involving inscribed figures</li> <li>• Determines the surface area of rectangular solids</li> <li>• Determines the effects of changing dimensions on volume (no units)</li> <li>• Identifies and determines missing angle measures for complementary angles</li> <li>• Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side</li> </ul>	<p><b>Geometric Measurement and Relationships</b></p> <ul style="list-style-type: none"> <li>• Determines slope from an equation (analysis)</li> <li>• Using the slope of an equation, identifies parallel and perpendicular lines</li> <li>• Determines the slope of perpendicular lines</li> <li>• Determines the midpoint of a line on a coordinate grid</li> <li>• Determines an endpoint of a line segment on a coordinate grid, given the midpoint and the other endpoint</li> <li>• Determines the circumference when given the area of a circle (or vice versa)</li> <li>• Determines the area of a figure when plotting ordered pairs without a grid</li> <li>• Determines the area of a parallelogram, given a labeled diagram</li> <li>• Calculate the height of a trapezoid, given the area, without the formula given (metric)</li> <li>• Determines the diameter or radius when given the area of a circle (metric units)</li> <li>• Solves problems involving complex figures (e.g., triangle, parallelogram)</li> <li>• Solves complex problems involving inscribed figures</li> <li>• Solves real-world problems involving surface area</li> <li>• Calculates the length of one side of a cube, given the volume (customary units)</li> <li>• Determines the volume of a cylinder</li> <li>• Calculates the radius of a sphere, given the volume and formula (metric units)</li> <li>• Solves real-world problems comparing volumes of figures</li> <li>• Recognizes that the sum of the measures of two sides of a triangle must be greater than the measure of the third side</li> <li>• Classifies polygons by properties</li> </ul>	<p><b>Geometric Measurement and Relationships</b></p> <ul style="list-style-type: none"> <li>• Determines slope from an equation (analysis)</li> <li>• Using the slope of an equation, identifies parallel and perpendicular lines</li> <li>• Determines the slope of perpendicular lines</li> <li>• Defines pi and knows common estimates (3.14 and 22/7)</li> <li>• Solves problems involving complex figures (e.g., triangle, parallelogram)</li> <li>• Solves real-world problems involving surface area</li> </ul>
<p><b>Congruence, Similarity, Right Triangles, &amp; Trig</b></p> <ul style="list-style-type: none"> <li>• Uses an indirect method to measure the height of an inaccessible object</li> <li>• Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles</li> <li>• Identifies corresponding and alternate exterior/interior angles</li> <li>• Uses properties of angles to solve mathematical problems</li> <li>• Recognizes the exterior angle relationships of triangles</li> <li>• Uses the Pythagorean theorem to solve problems</li> </ul>	<p><b>Congruence, Similarity, Right Triangles, &amp; Trig</b></p> <ul style="list-style-type: none"> <li>• Determines the distance between two points</li> <li>• Uses reasoning to verify properties of parallel and perpendicular lines</li> <li>• Identifies corresponding and alternate exterior/interior angles</li> <li>• Uses properties of angles to solve mathematical problems</li> <li>• Recognizes the exterior angle relationships of triangles</li> <li>• Solves problems involving properties of triangles</li> <li>• Uses the Pythagorean theorem to solve problems</li> <li>• Uses Pythagorean triplets to solve problems</li> </ul>	<p><b>Congruence, Similarity, Right Triangles, &amp; Trig</b></p> <ul style="list-style-type: none"> <li>• Determines sine of an angle in a given right triangle</li> <li>• Determines cosine of an angle in a given right triangle</li> <li>• Determines tangent of an angle in a given triangle</li> <li>• Uses trigonometric methods to solve mathematical problems involving triangles</li> <li>• Uses properties of angles to solve mathematical problems</li> <li>• Uses the properties of 30-60-90 triangles to solve problems</li> </ul>

#### 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*) 241 - 250	Skills and Concepts to Develop (50% Probability*) 251 - 260	Skills and Concepts to Introduce (27% Probability*) 261 - 270
Congruence, Similarity, Right Triangles, & Trig <ul style="list-style-type: none"> <li>• Uses Pythagorean triplets to solve problems</li> <li>• Determines whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation</li> <li>• Determines the coordinates of the dilation of a figure on a coordinate graph</li> <li>• Determines the new coordinates of a transformed geometric figure</li> </ul>	Congruence, Similarity, Right Triangles, & Trig <ul style="list-style-type: none"> <li>• Verifies congruency of triangles using ASA, SAS, SSS, or AAS</li> <li>• Solves problems involving similar polygons (not triangles)</li> <li>• Solves problems involving properties of similar triangles (e.g., using geometric mean, Triangle Proportionality Theorem)</li> <li>• Uses picture representations to identify symmetry of plane figures with respect to a point or line</li> <li>• Determines the coordinates of the dilation of a figure on a coordinate graph</li> </ul>	Congruence, Similarity, Right Triangles, & Trig
<i>New Vocabulary:</i> 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, segment overbar, sq square, △ triangle	<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

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