

# Math: Geometry: Congruence, Similarity, Transformations & Trig

## Students: DesCartes Statements:

### Students:

#### RIT Above 270:

- Uses trigonometric methods to solve mathematical problems involving triangles

### Students:

#### RIT 261-270:

- Determines cosine of an angle in a given right triangle
- Determines sine 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
- Uses the properties of 30-60-90 triangles to solve problems
- Uses trigonometric methods to solve mathematical problems involving triangles

### Students:

#### RIT 251-260:

- Determines the coordinates of the dilation of a figure on a coordinate graph
- Determines the distance between two points
- Identifies corresponding and alternate exterior/interior angles
- Recognizes the exterior angle relationships of triangles
- Solves problems involving properties of similar triangles (e.g., using geometric mean, Triangle Proportionality Theorem)
- Solves problems involving properties of triangles
- Solves problems involving similar polygons (not triangles)
- Uses picture representations to identify symmetry of plane figures with respect to a point or line
- Uses properties of angles to solve mathematical problems
- Uses Pythagorean triplets to solve problems
- Uses reasoning to verify properties of parallel and perpendicular lines
- Uses the Pythagorean theorem to solve problems
- Verifies congruency of triangles using ASA, SAS, SSS, or AAS

### Students:

#### RIT 241-250:

- Determines the coordinates of the dilation of a figure on a coordinate graph
- 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
- 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
- Uses an indirect method to measure the height of an inaccessible object
- Uses properties of angles to solve mathematical problems
- Uses Pythagorean triplets to solve problems
- Uses the Pythagorean theorem to solve problems

### Students:

#### RIT 231-240:

- Determines whether a given pair of figures on a coordinate plane represents a translation, reflection, rotation, or dilation
- Identifies and determines a missing angle measure in corresponding, vertical, and alternate exterior/interior angles
- Identifies geometric transformations (dilations)
- Identifies geometric transformations (reflections)
- Identifies properties of congruent triangles
- Recognizes the interior angle relationships of triangles
- Solves problems involving properties of congruent triangles
- Uses similar triangles to construct ratios and solve for a missing side

### Students:

#### RIT 221-230:

- 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

**Students:****RIT 211-220:**

- Identifies geometric transformations (rotations)
- Identifies geometric transformations (translations)
- Identifies similar and congruent triangles
- Uses similar figures to construct ratios and solve for a missing side

**Students:****RIT 201-210:**

- Classifies plane figures by the number of lines of symmetry
- Identifies congruent polygons and their corresponding sides and angles

**Students:****RIT 191-200:**

- 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
- Identifies transformations of plane figures (reflections/flips)

**Students:****RIT 181-190:**

- Identifies congruent figures
- Identifies figures that are similar
- Identifies plane figures with line symmetry
- Identifies transformations of plane figures (rotations/turns)

**Students:****RIT 171-180:**

- Identifies figures that are similar

**Students:****RIT 161-170:**

- Identifies figures that are the same size and shape

**Students:****RIT Below 161:**

- Identifies figures that are the same size and shape