Content Area: Math Grade Level: 8th Grade

Reporting Measure: Transformations, Similarity, and Congruence

Level	Description
Above & Beyond (4.0)	The student will: • Verify the properties of transformations through experimentation (for example, perform a series of rigid transformations to verify that line-segment length, angle measure, and parallelism are preserved under translation, reflection, and rotation).
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Proficient (3.0)	The student will: **TSC1—Describe how transformations affect two-dimensional figures using coordinates** (for example, perform a transformation on a shape on the coordinate plane and compare pre- and post-transformation coordinate values for any given point on the shape). **TSC2—Calculate the size ratio between similar shapes** (for example, calculate the size ratio between similar triangles by comparing the lengths of their corresponding sides). **TSC3—Explain how transformations can indicate congruency or similarity** (for example, demonstrate that shapes are congruent if they can be stacked one atop another using translation, reflection, or rotation, but that they are only similar if dilation must be applied).
2.5	No major errors or omissions regarding score 2.0 content, and partial success at score 3.0 content
Getting There (2.0)	**TSC1—**The student will recognize or recall specific vocabulary (for example, *corresponding*) and perform basic processes such as: • Identify the coordinates of corresponding points of congruent shapes and similar shapes. • Perform a translation on a shape on the coordinate plane and identify the change in *x*- and *y*-values for any given point on the shape. • Perform a reflection on a shape on the coordinate plane and identify the change in *x*- and *y*-values for any given point on the shape. • Perform a $90°$ or $180°$ rotation on a shape on the coordinate plane and identify the change in *x*- and *y*-values for any given point on the shape. • Perform a dilation on a shape on the coordinate plane and identify the change in *x*- and *y*-values for any given point on the shape. **TSC2—**The student will recognize or recall specific vocabulary (for example, *dilation*) and perform basic processes such as: • Identify similar shapes. • Calculate the ratio between two values. • Compare the side lengths of corresponding sides of similar shapes. **TSC3—**The student will recognize or recall specific vocabulary (for example, *congruent*, *similar*) and perform basic processes such as: • Explain the effects of transformations on the points of a shape (for example, explain that in translation all points in a shape are shifted the same distance and direction from their original location, in reflection all points are reflected across a straight line, and in rotation all the points are rotated the same direction and by the same degree around a central point). • Explain that in dilation all angles in a shape remain equal while all corresponding sides are scaled in size by a common ratio.

	• Explain that all corresponding sides between similar shapes have the same size ratio and that the ratio among the sides of a given shape is the same across similar shapes. • Explain that congruent shapes have equal corresponding side lengths and equal corresponding angle measurements.
1.5	Partial success at score 2.0 content, and major errors or omissions regarding score 3.0 content
Beginning (1.0)	With help, partial success at score 2.0 content and score 3.0 content