

Learning Goals

Section 1: Transformations

Lesson 1: Transformers

Describing Movement in the Plane

- I can describe how a figure moves and turns to get from one position to another.

Lesson 2: Spinning, Flipping, Sliding

Naming Transformations

- I know the difference between translations, rotations, and reflections.

Lesson 3: Transformation Golf

Sequences of Transformations

- I can decide which type of transformation will work to move one figure to another.

Lesson 4: Moving Day

Transformations on Grids

- I can use the terms *translation*, *rotation*, and *reflection* to precisely describe transformations on a grid.
- I can use a grid to perform a translation, rotation, or reflection.

Lesson 5: Getting Coordinated

Using Coordinates to Describe Transformations

- I can apply transformations to points on a grid if I know their coordinates.

Lesson 6: Connecting the Dots

Describing Transformations Precisely

- I can apply transformations to a polygon on a grid if I know the coordinates of its vertices.

Section 2: Defining Congruence

Lesson 7: Are They the Same?

Defining Congruence

- I can determine whether or not two figures are congruent just by looking.
- Explain whether or not congruent corresponding sides is enough information to determine if polygons are congruent.

Lesson 8: No Bending, No Stretching

Rigid Transformations

- I can describe the effects of a rigid transformation on the lengths and angles of a polygon.

Unit 8.1, Student Goals and Glossary

Lesson 9: Are They Congruent?

Rigid Transformations and Congruent Figures

- I can decide whether or not two figures are congruent using rigid transformations.
- I understand whether or not congruent sides are enough to determine if two polygons are congruent.

Section 3: Applying Congruence

Lesson 10: Transforming Angles

Angle Measures in Parallel Lines

- I can describe the effects of a rigid transformation on a pair of parallel lines.
- If I have a pair of vertical angles and know the angle measure of one of them, I can use vertical angles to determine missing angle measurements.
- I can identify congruent angles on two parallel lines cut by a transversal and use that to determine missing angle measurements.

Lesson 11: Tearing It Up

Angle Sums in Triangles

- If I know two of the angle measures in a triangle, I can find the third angle measure.

Lesson 12: Puzzling It Out

Proving the Triangle Sum Theorem

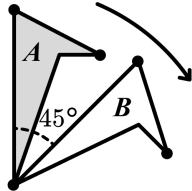
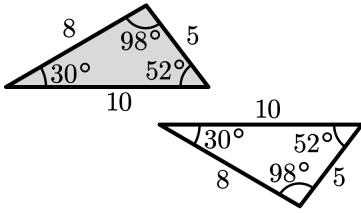
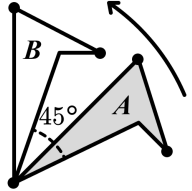
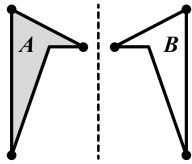
- I can explain using pictures why the sum of the angles in any triangle is 180 degrees.

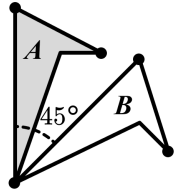
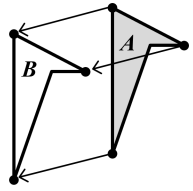
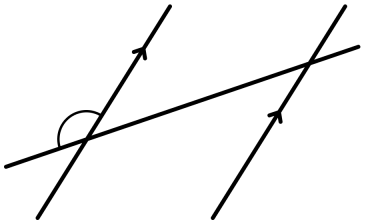
Lesson 13: Tessellate

Using Transformations to Create Art

- I can use rigid transformations to make interesting repeating patterns of figures.

Glossary

Term	Definition
<p>clockwise</p>	<p>Clockwise means to turn in the same direction as the hands of a clock. It is a turn to the right.</p> 
<p>corresponding</p>	<p>When part of an original figure matches up with part of a copy, we call them corresponding parts. These could be points, segments, angles, or distances.</p>
<p>congruent</p>	<p>One figure is congruent to another if it can be moved with translations, rotations, and reflections to fit exactly over the other.</p> 
<p>counterclockwise</p>	<p>Counterclockwise means to turn opposite of the way the hands of a clock turn.</p> 
<p>image</p>	<p>An image is the result of translations, rotations, and reflections on an object. Every part of the original object moves in the same way to match up with a part of the image.</p>
<p>reflection</p>	<p>A reflection across a line moves every point on a figure to a point directly on the opposite side of the line. The new point is the same distance from the line as it was in the original figure.</p> 
<p>rigid transformation</p>	<p>A rigid transformation is a move that does not change any measurements of a figure. Translations, rotations, and reflections are rigid transformations, as is any sequence of these.</p>

<p>rotation</p>	<p>A rotation moves every point on a figure around a center by a given angle in a specific direction.</p>	
<p>sequence of transformations</p>	<p>A sequence of transformations is a set of translations, rotations, reflections, and dilations on a figure. The transformations are performed in a given order.</p>	
<p>transformation</p>	<p>A transformation is a translation, rotation, reflection, or dilation, or a combination of these.</p>	
<p>translation</p>	<p>A translation moves every point in a figure a given distance in a given direction.</p>	
<p>transversal</p>	<p>A transversal is a line that cuts across parallel lines.</p>	
<p>vertical angles</p>	<p>Vertical angles are opposite angles that share the same vertex. They are formed by a pair of intersecting lines. Their angle measures are equal.</p>	