

Mathematics 9
Unit 7: Similarity and Transformations

Text: Math Makes Sense 9

Chapter 7

By the end of this unit, it is expected that students will:

Outcomes	Textbook
<p>1. Draw and interpret scale diagrams of 2-D shapes.</p> <ul style="list-style-type: none"> < Identify an example in print and electronic media (Internet, newspaper) of a scale diagram and interpret the scale factor. < Draw a diagram to scale that represents an enlargement or reduction of a 2-D shape. < Determine the scale factor for a given diagram drawn to scale. < Determine if a given diagram is proportional to the original 2-D shape and, if it is, state the scale. 	<ul style="list-style-type: none"> < Lesson 7.1 Pgs:318 - 324 < Lesson 7.2 Pgs:325 - 331
<p>2. Demonstrate an understanding of similarity of polygons.</p> <ul style="list-style-type: none"> < Determine if the polygons in a set are similar and explain the reasoning. < Draw a polygon similar to a given polygon and explain why. < Solve a problem using the properties of similar polygons. < Solve a problem that involves a scale diagram by applying properties of similar triangles. 	<ul style="list-style-type: none"> < Lesson 7.3 Pgs: 334 – 342 < Lesson 7.4 Pgs: 343 – 352
<p>3. Demonstrate an understanding of line and rotation symmetry.</p> <ul style="list-style-type: none"> < Classify a set of 2-D shapes or designs according to the number of lines of symmetry. < Complete a 2-D shape/design given one half of the shape/design and a line of symmetry. < Determine if a 2-D shape/design has rotation symmetry about the point at the center of the shape/design and if it does, state the order and angle of rotation. < Rotate a 2-D shape about a vertex and draw the resulting image. < Identify the line of symmetry or the order and angle of rotation symmetry in a given tessellation. < Identify and describe the types of symmetry created in a piece of art. < Create or provide a piece of art that demonstrates line and rotation symmetry and identify the line(s) of symmetry or the order and angle of rotation. < Determine whether or not two given 2-D shapes on the Cartesian plane are related by either rotation or line symmetry. < Identify the type of symmetry that arises from a given transformation on the Cartesian plane. 	<ul style="list-style-type: none"> < Lesson 7.5 Pgs: 353 – 359 < Lesson 7.6 Pgs: 361 – 367 < Lesson 7.7 Pgs: 368 – 375

<ul style="list-style-type: none"> < Complete, concretely or pictorially, a given transformation of a 2-D shape on a Cartesian plane, record the coordinates and describe the type of symmetry that results. < Draw, on a Cartesian plane, the translation image of a given shape using a translation rule, label each vertex and its corresponding ordered pair and determine why the translation may or may not result in line or rotation symmetry. 	
<p>Review Exercises:</p> <ul style="list-style-type: none"> < Mid-Unit Review < Unit Review < Practice Test 	<p>Pg: 352 Pgs: 376-379 Pg: 380</p>