

# Unit 4

## Lines, Angles, Triangles, and Quadrilaterals

Grade 8

### Lesson Outline

#### BIG PICTURE

Students will:

- investigate the properties of quadrilaterals, triangles, intersecting and parallel lines;
- investigate the relationships within quadrilaterals, triangles, intersecting and parallel lines;
- solve angle-relationship problems involving triangles, intersecting lines, and parallel lines crossed by a transversal;
- make use of dynamic geometry software as well as manipulatives and pencil and paper to carry out these investigations.

Day	Lesson Title	Math Learning Goals	Expectations
1, 2	Ancient Structures <i>(lessons not included)</i>	<ul style="list-style-type: none"> <li>• Classify quadrilaterals by properties related to sides and angles (review only).</li> <li>• Investigate the properties of the diagonals of each of the quadrilaterals.</li> </ul>	8m43 CGE 3b, 3c, 3e
3, 4	That Proves It! <i>(lessons not included)</i>	<ul style="list-style-type: none"> <li>• Investigate which properties will, by themselves or in combination, be sufficient to determine each of the quadrilaterals.</li> </ul>	8m43 CGE 4b, 4f
5	Living with Quadrilaterals <i>(lesson not included)</i>	<ul style="list-style-type: none"> <li>• Investigate and describe applications of the properties of quadrilaterals in the real world.</li> </ul>	8m45 CGE 5a, 5b
6	Crossing Paths <i>(lesson not included)</i>	<ul style="list-style-type: none"> <li>• Investigate the angle relationships for intersecting lines using a variety of tools.</li> <li>• Solve missing angle problems involving intersecting lines.</li> </ul>	8m47, 8m48 CGE 5a, 5e, 7b
7	Separated No Longer <i>(lesson not included)</i>	<ul style="list-style-type: none"> <li>• Investigate the angle relationships for parallel lines cut by a transversal.</li> <li>• Solve missing angle problems involving parallel lines cut by a transversal.</li> </ul>	8m47, 8m48 CGE 3c, 5b, 7b
8	That Sums It Up! <i>(lesson not included)</i>	<ul style="list-style-type: none"> <li>• Determine the sum of the interior angles of a triangle.</li> <li>• Solve missing angle problems involving the interior angles of a triangle.</li> </ul>	8m47, 8m48 CGE 5g, 7b
9,10	What's My Angle? <i>(lesson not included)</i>	<ul style="list-style-type: none"> <li>• Solve simple missing angle problems.</li> <li>• Solve angle relationship word problems involving lines and triangles.</li> </ul>	8m48 CGE 2b, 3c, 5b
11	Sort and Classify <i>(lesson not included)</i>	<ul style="list-style-type: none"> <li>• Investigate the geometric properties of quadrilaterals with two pairs of parallel sides (squares, rectangles, parallelograms, rhombi) or one pair of parallel sides with two non-parallel sides (trapezoid).</li> </ul>	8m43 CGE 3b, 3c, 5a
12	Unit Review		
13	Summative Assessment		