Section Overview

SECTION 9B

Polygons

Lessons 9-5, 9-6, 9-8

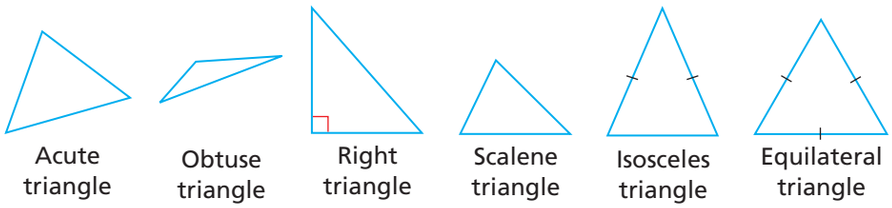
Why? When you are able to recognize polygons and distinguish between different types of polygons, it is easier to apply the properties of polygons.

A **polygon** is a closed plane figure bounded by three or more line segments that intersect only at their endpoints.

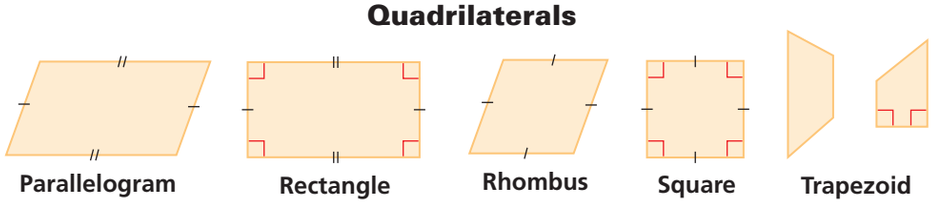
Polygons

Not polygons

Triangles



Quadrilaterals

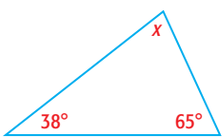


Angles in Triangles

Lesson 9-7

Why? When you know the sum of the interior angles of a triangle and all the angle measures but one, you can find the missing angle measure.

The sum of the interior angles of a triangle is **180°.**



Find the measure of the unknown angle.

$38° + 65° + x = 180°$

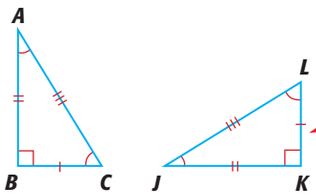
$103° + x = 180°$

$x = 77°$

Congruent Figures

Lesson 9-9

Why? You can use the properties of congruent figures in many proofs in geometry.

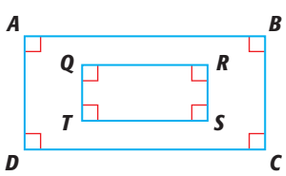


Two figures are **congruent** when their corresponding sides and corresponding angles are congruent.

Congruent

$\triangle ABC \cong \triangle JKL$

Their positions are different, but the triangles are the same size and shape.



Not congruent

$ABCD \ncong QRST$

The rectangles are not the same size.