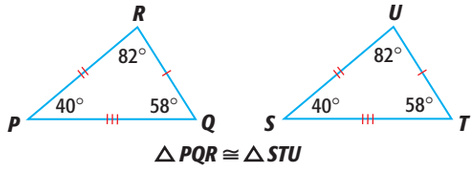
Section Overview

SECTION 8B

Congruent Polygons — Lesson 8-6

Why? Congruence is used in many applications. For example, replacement parts in machines must be congruent.

Congruent polygons are the same shape and size. Their corresponding sides and angles have equal measures.



$\triangle PQR \cong \triangle STU$

You can find unknown values in congruent polygons.

If $RQ = x + 8$ and $UT = 20$, then $RQ = UT$.

$RQ = UT$

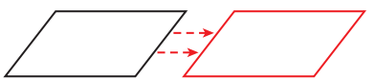
$x + 8 = 20$

$x = 12$

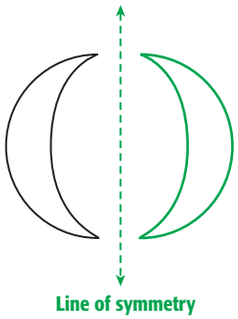
Transformations — Lesson 8-7

Why? Transformations of, and symmetry in, geometric figures occurs often in art, architecture, and engineering.

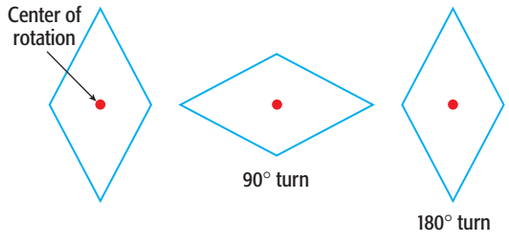
Translation



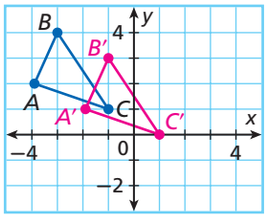
Reflection



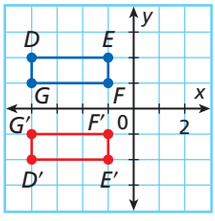
Rotation



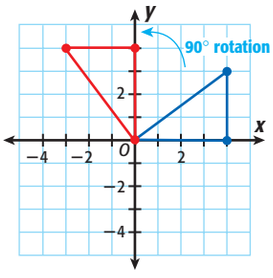
You can graph transformations on the coordinate plane.



A translation 1 unit down and 2 units right



A reflection across the *x*-axis



A counterclockwise rotation about the origin