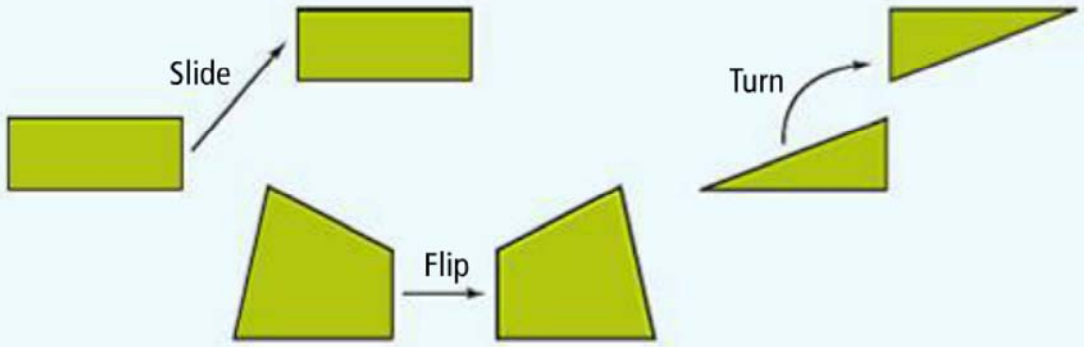
Congruent figures have the same size and shape. When two figures are congruent, you can slide, flip, or turn one so that it fits exactly on the other one, as shown below. In this lesson, you will learn how to determine if geometric figures are congruent.



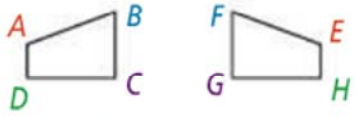
take note

Key Concept Congruent Figures

Definition

Congruent polygons have congruent corresponding parts—their matching sides and angles. When you name congruent polygons, you must list corresponding vertices in the same order.

Example



$ABCD \cong EFGH$

$\overline{AB} \cong \overline{EF}$ $\overline{BC} \cong \overline{FG}$

$\overline{CD} \cong \overline{GH}$ $\overline{DA} \cong \overline{HE}$

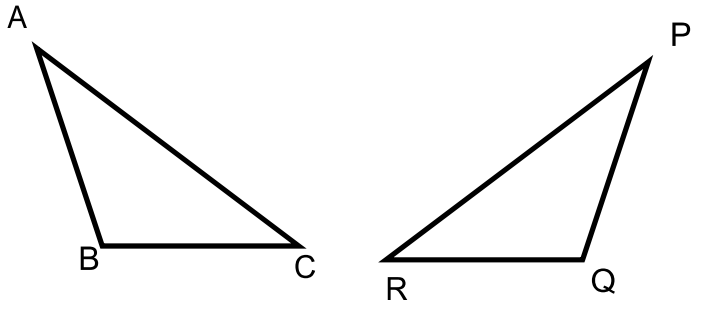
$\angle A \cong \angle E$ $\angle B \cong \angle F$

$\angle C \cong \angle G$ $\angle D \cong \angle H$

Example 1

$\Delta ABC \cong \Delta PQR$

reads "Triangle ABC is congruent to triangle PQR"
which means the triangles are the same shape and same size.



so corresponding angles- the ones that match up- are congruent.

$$\angle A \cong \angle P$$
$$\angle B \cong \angle Q$$
$$\angle C \cong \angle R$$

and corresponding sides- the ones that match up- are congruent.

$$\overline{AB} \cong \overline{PQ}$$
$$\overline{BC} \cong \overline{QR}$$
$$\overline{CA} \cong \overline{RP}$$