

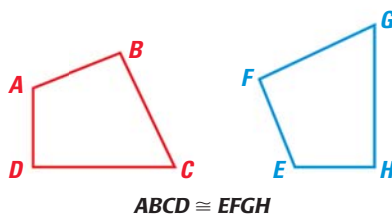
# 12 TAKS PREPARATION



TAKS Obj. 6  
TEKS G.10.A

## REVIEWING CONGRUENT FIGURES

Two geometric figures are *congruent figures* if they have the same size and the same shape. When two figures are congruent, all pairs of corresponding angles and corresponding sides are congruent. The symbol “ $\cong$ ” is used to state that two angles, sides, or figures are congruent.



**Corresponding Angles:**

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

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

**Corresponding Sides:**

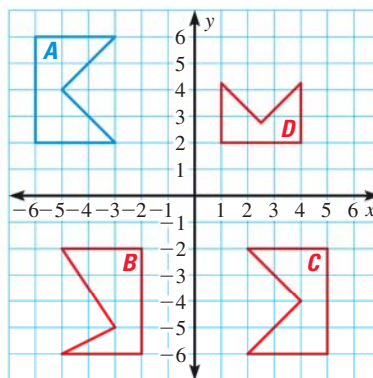
$$\overline{AB} \cong \overline{EF}, \overline{BC} \cong \overline{FG},$$

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

Reflections, rotations, and translations are *congruence transformations*, or *isometries*. When applied to an object, isometries preserve lengths, angle measures, parallel lines, and distances between points.

### EXAMPLE

Which red polygon is congruent to polygon A?



#### Solution

A polygon is congruent to polygon A if it has the same size and the same shape as polygon A (though not necessarily the same orientation). Check each red polygon to see whether it satisfies these conditions.

**Check polygon B:** Polygon B does not have the same shape as polygon A. So, polygon B is *not* congruent to polygon A.

**Check polygon D:** Polygon D has the same shape as polygon A, but polygon D is not the same size as polygon A. So, polygon D is *not* congruent to polygon A.

**Check polygon C:** Polygon C has the same shape and the same size as polygon A. The corresponding sides of polygon C and polygon A are equal in length, and the corresponding angles of polygon C and polygon A are equal in measure.

► Polygon C is congruent to polygon A.