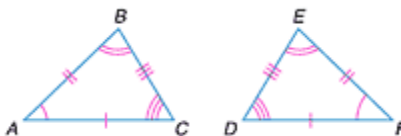


Lesson 10-2

Example 1 Name Corresponding Parts
Name the corresponding parts in the congruent triangles shown. Then complete the congruence statement.



Corresponding Angles

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

Corresponding Sides

$$\overline{AB} \cong \overline{FE}, \overline{BC} \cong \overline{ED}, \overline{CA} \cong \overline{DF}$$

One congruence statement is $\triangle ABC \cong \triangle FED$.

Example 2 Use Congruence Statements

If $\triangle MNO \cong \triangle RST$, complete each congruence statement.

$$\frac{\angle M \cong \underline{\quad?}}{\underline{\quad?}}$$

$$\frac{\angle S \cong \underline{\quad?}}{\underline{\quad?}}$$

$$\frac{\angle O \cong \underline{\quad?}}{\underline{\quad?}}$$

Explore

You know the congruence statement. You need to find the corresponding parts.

Plan

Use the order of the vertices in $\triangle MNO \cong \triangle RST$ to identify the corresponding parts.

Solve

$$\triangle MNO \cong \triangle RST$$



$\angle M$ corresponds to $\angle R$ so $\angle M \cong \angle R$.

$\angle N$ corresponds to $\angle S$ so $\angle N \cong \angle S$.

$\angle O$ corresponds to $\angle T$ so $\angle O \cong \angle T$.

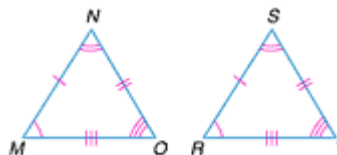
R corresponds to M , and S corresponds to N so $\overline{RS} \cong \overline{MN}$.

M corresponds to R , and O corresponds to T so $\overline{MO} \cong \overline{RT}$.

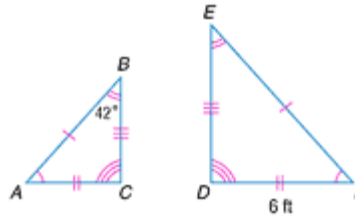
N corresponds to S , and O corresponds to T so $\overline{NO} \cong \overline{ST}$.

Examine

Draw the triangles, using arcs and slash marks to show the congruent angles and sides.



Example 3 Find Missing Measures
For the congruent triangles at the right,
find $m\angle E$ and the length of \overline{AC} .



Since $\angle E$ and $\angle B$ are corresponding angles,
they are congruent. So, $m\angle E = 42^\circ$.

\overline{AC} corresponds to \overline{DF} . So \overline{AC} and \overline{DF} are congruent. Since $\overline{DF} = 6$ feet, $\overline{AC} = 6$ feet.