

Corresponding Parts in a Congruence

Objectives

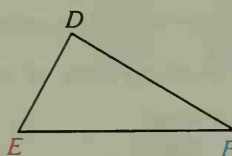
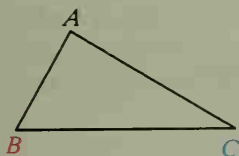
1. Identify the corresponding parts of congruent figures.
2. Prove two triangles congruent by using the SSS Postulate, the SAS Postulate, and the ASA Postulate.
3. Deduce information about segments and angles after proving that two triangles are congruent.

4-1 Congruent Figures

The quilt on the facing page is made up of many triangles that are all the same size and shape. These triangles are arranged to form squares and rectangles of various sizes. The diagrams below feature the pattern in the quilt. In each diagram, how many triangles with the same size and shape do you see? How many squares? How many rectangles?



Whenever two figures have the same size and shape, they are called **congruent**. You are already familiar with congruent segments (segments that have equal lengths) and congruent angles (angles that have equal measures). In this chapter you will learn about congruent triangles.



Triangles ABC and DEF are congruent. If you mentally slide $\triangle ABC$ to the right, you can fit it exactly over $\triangle DEF$ by matching up the vertices like this:

$$A \leftrightarrow D$$

$$B \leftrightarrow E$$

$$C \leftrightarrow F$$

The sides and angles will then match up like this:

Corresponding angles

$$\angle A \leftrightarrow \angle D$$

$$\angle B \leftrightarrow \angle E$$

$$\angle C \leftrightarrow \angle F$$

Corresponding sides

$$\overline{AB} \leftrightarrow \overline{DE}$$

$$\overline{BC} \leftrightarrow \overline{EF}$$

$$\overline{AC} \leftrightarrow \overline{DF}$$