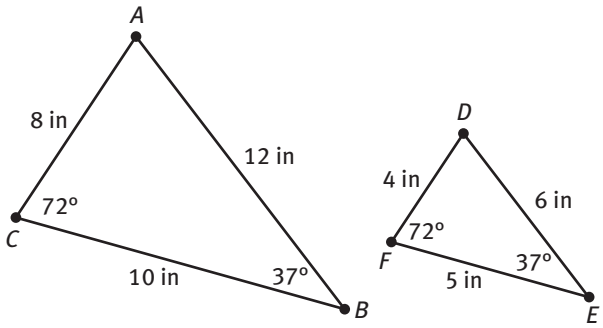
Similar Triangles

Similar triangles have the same shape, but they do not have to be the same size.
If the triangles are similar, the lengths of the corresponding sides are proportional and the measure of the corresponding angles is equal.

The symbol ~ is read "is similar to."

EXAMPLE

Determine whether the given triangles are similar.



Step 1: *Make sure all the angles are congruent.*

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

Step 2: *Determine if the sides are in proportion.*

$$\frac{8}{4} = \frac{12}{6} = \frac{10}{5}$$

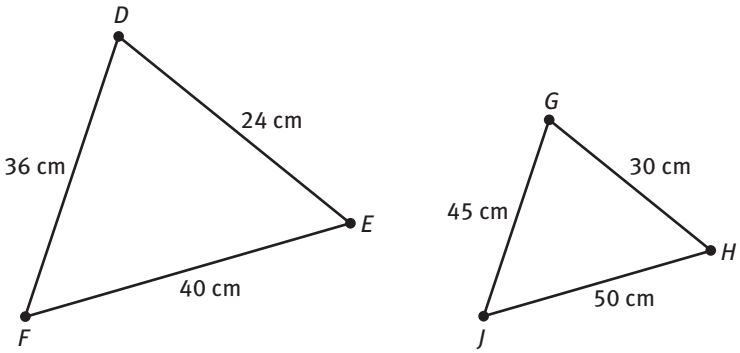
$$\frac{2}{1} = \frac{2}{1} = \frac{2}{1}$$

Solution: The triangles are similar. The sides are in proportion and the corresponding angles are equal.

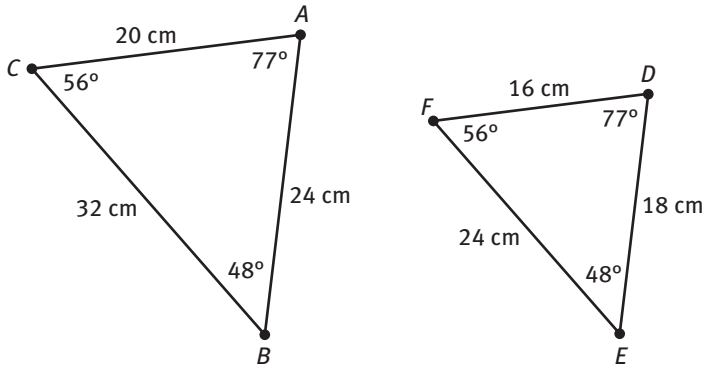
PRACTICE

Determine whether the given triangles are similar.

1.



2.



3.