

LESSON
4-2

Using Similar Shapes

Reteach

If you know that 2 figures are similar, you can use proportions to find unknown lengths of sides, as well as find unknown angle measurements.

The triangles are similar.

Side AC corresponds to side DF .

Side AB corresponds to side DE .

Side BC corresponds to side EF .

Write a proportion comparing the lengths of a pair of corresponding sides.

$$\frac{AC}{DF} = \frac{BC}{EF}$$

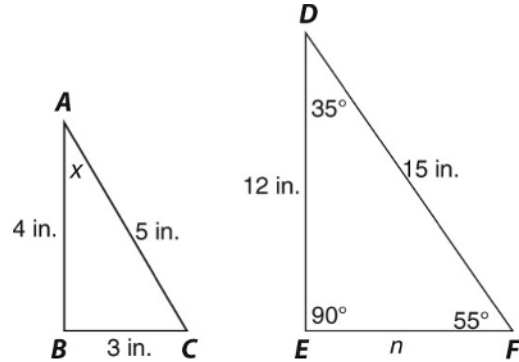
$$\frac{5}{15} = \frac{3}{n}$$

$$5 \cdot n = 15 \cdot 3$$

$$5n = 45$$

$$\frac{5n}{5} = \frac{45}{5}$$

$$n = 9$$



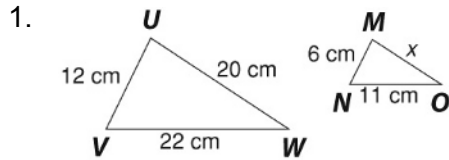
Corresponding angles of similar triangles have equal measures.

Since $\angle A$ corresponds to $\angle D$, $x = 35^\circ$.

The length of the missing side is 9 in.

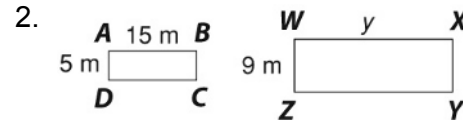
The measure of the unknown angle is 35° .

The shapes in each pair are similar. Find the unknown measures.



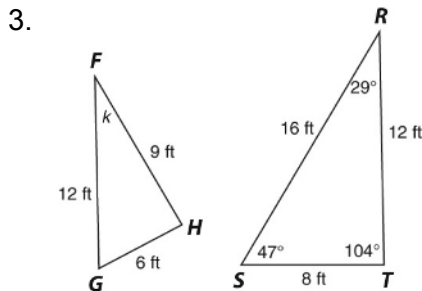
$$\frac{UW}{UV} = \frac{UW}{UV} ; \frac{20}{12} = \frac{12}{x}$$

$$x =$$

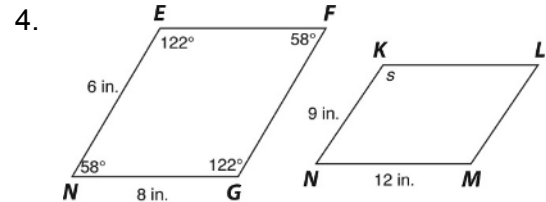


$$\frac{WZ}{WX} = \frac{WZ}{WX} ; \frac{9}{y} = \frac{y}{15}$$

$$y =$$



$$k =$$



$$s =$$