



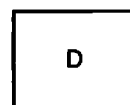
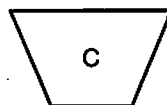
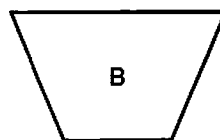
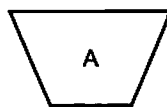
SKILL 8: Similar Figures

Similar figures are the same shape but not necessarily the same size.

Congruent figures are the same size and the same shape.

Polygons A, B, and C are all similar, but only polygons A and C are congruent.

In similar figures, matching angles have the same measure, and matching sides are proportional.



Example

The two triangles are similar. Find the length of side k .

The triangles are similar, so the corresponding sides are proportional.

Write a proportion using corresponding sides.

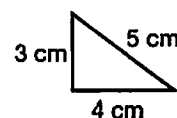
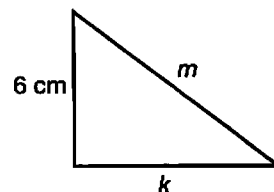
The side that corresponds to k has a length of 4 cm.

Another pair of corresponding sides has lengths of 6 cm and 3 cm.

Find cross products to solve the proportion.

Divide to undo multiplication.

Side k measures 8 cm.



$$\frac{k}{4} = \frac{6}{3}$$

$$3 \times k = 24$$

$$\frac{3 \times k}{3} = \frac{24}{3}$$

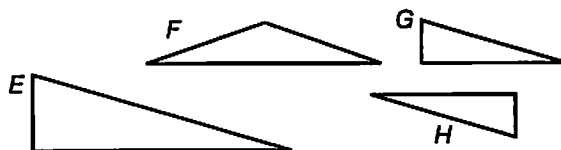
$$k = 8$$

Guided Practice

Find a pair of triangles that appear to be:

1. Congruent _____

2. Similar _____



Use the similar triangles in the Example. Find the length of side m .

3. Find the length of the side that corresponds to side m . _____

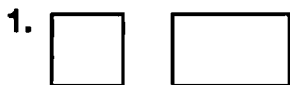
4. Find another pair of corresponding sides. _____

5. Write a proportion using corresponding sides. _____

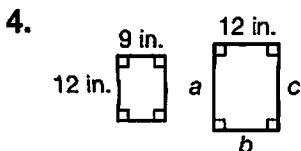
6. Solve to find the length of side m . _____

SKILL 8: Practice

Tell whether the figures appear to be congruent, similar, or neither.



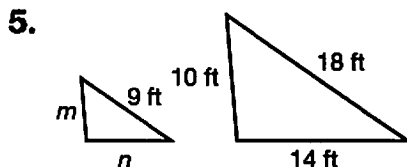
The polygons in each exercise are similar. Find the missing lengths.



$a =$ _____

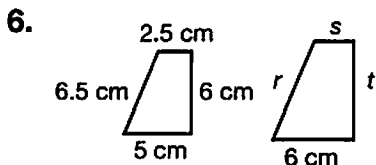
$b =$ _____

$c =$ _____



$m =$ _____

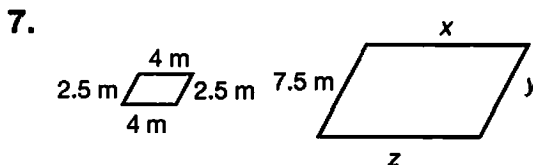
$n =$ _____



$r =$ _____

$s =$ _____

$t =$ _____



$x =$ _____

$y =$ _____

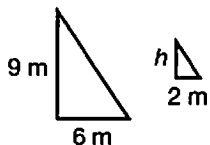
$z =$ _____

8. The sizes of rectangular screens are given in the table. Which screens are similar in size?

Hand TV	2 in. by 3 in.
Computer	12 in. by 15 in.
TV	15 in. by 21 in.
Movie	20 ft by 28 ft



9. The triangles are similar. Find the length of h .



Skill 8

A 3 m

C 6 m

B 9 m

D 27 m

10. Solve for d : $\frac{d}{3.5} = \frac{10}{7}$

Skill 6

F 3.5

H 5

G 7

J 0.5