6-7   Similar Figures

Warm up: Solve for x

$$\frac{x}{4} = \frac{3}{5}$$
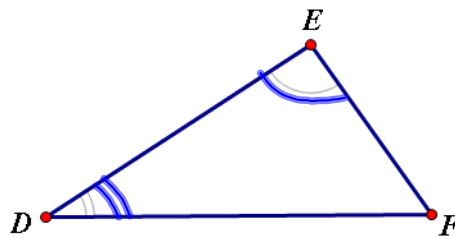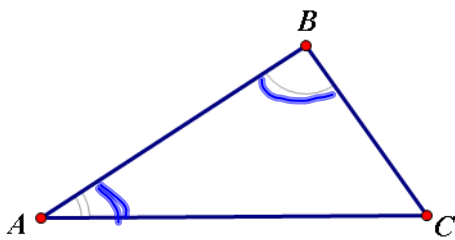
$$\frac{x-2}{5} = \frac{11}{12}$$

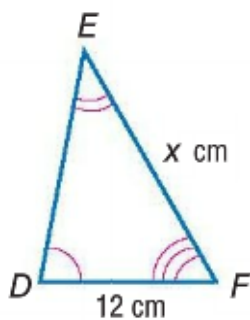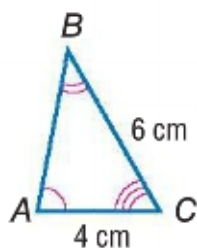$4 \cdot 3 \div 5 \quad x = 2.4 \quad 5 \cdot 11 \div 12 + 2 \quad 6.583$

Similar: Same shape, not necessarily same size

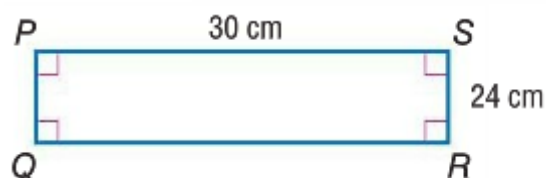
Angles have the same measure
Side lengths are proportional

Ex. 1   The figures are similar. Solve for x

B

6 cm

A   C
   4 cm

E

x cm

D   F
   12 cm

$$\frac{6}{4} = \frac{x}{12}$$

$$x = 18 \text{ cm}$$

Ex. 2   The figures are similar. Solve for b:

L   5 cm   O

b cm

M   N

P   30 cm   S

24 cm

Q   R

$$\frac{5}{b} = \frac{30}{24}$$
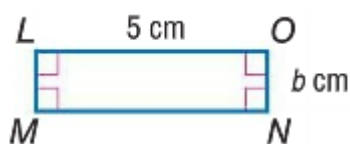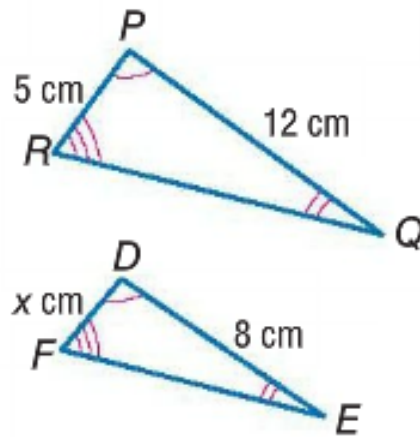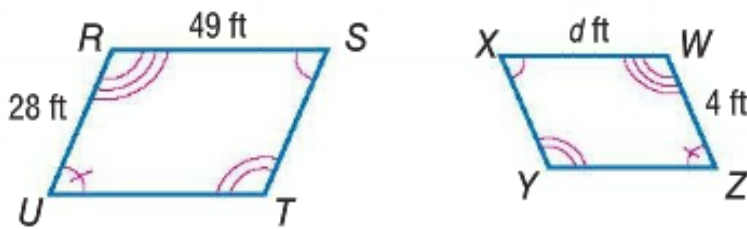
$$b = 4 \text{ cm}$$

Ex. 3   The figures are similar. Solve for x.
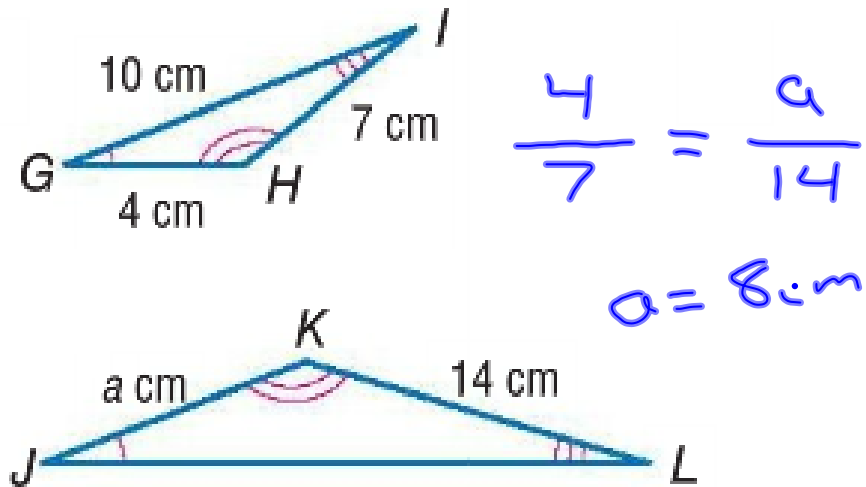

$$\frac{5}{12} = \frac{x}{8}$$

$$x = 3.\overline{3}$$
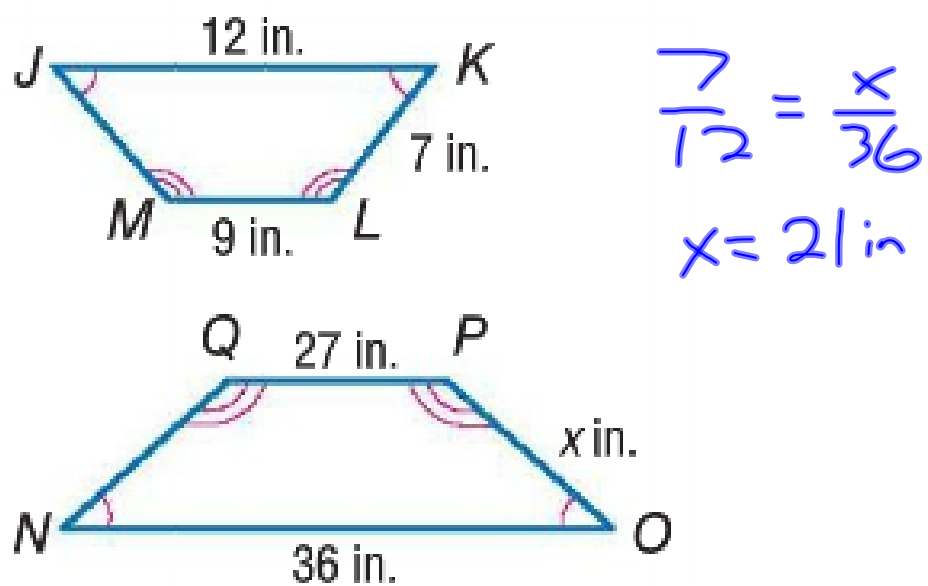
Ex. 4   The figures are similar. Solve for d.

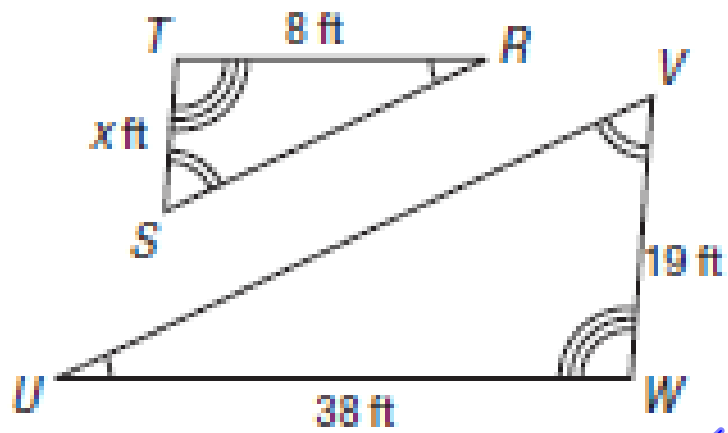$$\frac{28}{49} = \frac{4}{d}$$

$$d = 7$$

Ex. 5　　The figures are similar. Solve for a.

10 cm

I

7 cm

G

4 cm

H

$$\frac{4}{7} = \frac{a}{14}$$

$$a = 8 \text{ cm}$$

K

a cm

14 cm

J

L

Ex. 6　　The figures are similar. Solve for x.

J —— 12 in. —— *K*

7 in.

M　9 in.　*L*

$$\frac{7}{12} = \frac{x}{36}$$

$$x = 21 \text{ in}$$

Q　27 in.　*P*

x in.

N

36 in.

O

Ex. 7   The figures are similar. Solve for *x*.

$$\frac{8}{x} = \frac{38}{19}$$

Homework
p.304
#4-7