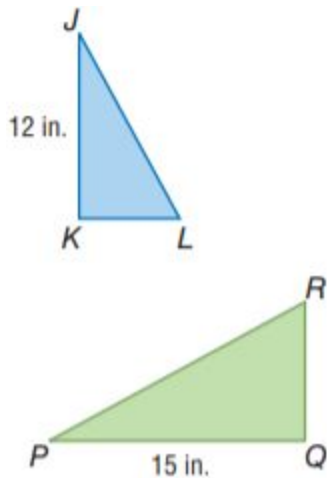Recall:

If two polygons are similar then their perimeters are proportional to the scale factor between them.
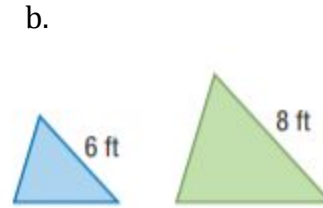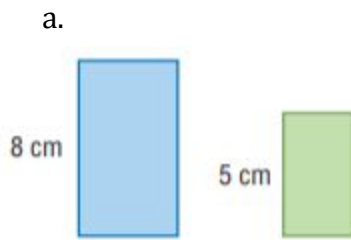

|		If two polygons are similar, then their areas are proportional to the square of the scale factor between them.	If $ABCD \sim FGHJ$, then $$\frac{\text{area of } FGHJ}{\text{area of } ABCD} = \left(\frac{FG}{AB}\right)^2.$$
Areas of Similar Polygons			

1. If $\triangle JKL \sim \triangle PQR$ and the area of $\triangle JKL = 30\ in^2$. Find the area of $\triangle PQR$.

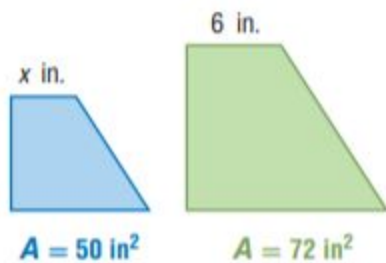2. For each pair of similar figures, find the area of the figure on the right:

a.

8 cm

5 cm

b.

6 ft

8 ft

3. The area of parallelogram $ABCD = 150 \ m^2$. The area of parallelogram $FGHJ = 54 \ m^2$. If the two parallelograms are similar, find the scale factor of parallelogram $FGHJ$ to parallelogram $ABCD$ and find x.

A   B

F   G

J   x m   H

D   10 m   C
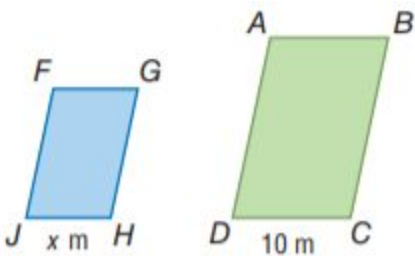
4. For each pair of similar figures, use the given areas to find the scale factor of the left figure to the right figure. Then find x.

a.

6 in.

x in.

$A = 50$ in² $A = 72$ in²

b.

40 mm x mm

$A = 400$ mm² $A = 64$ mm²