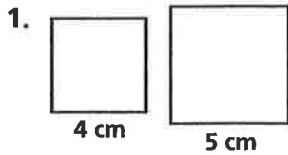


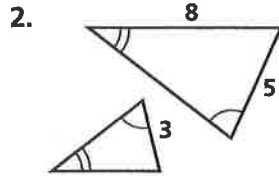
Key

**Perimeters and Areas of Similar Figures**

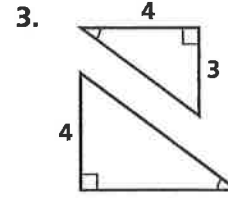
For each pair of similar figures, find the ratio of the perimeters and the ratio of the areas.



$P = \frac{4}{5}$     $A = \frac{16}{25}$



$P = \frac{3}{5}$     $A = \frac{9}{25}$

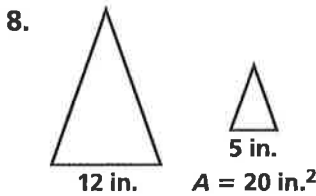


$P = \frac{3}{4}$     $A = \frac{9}{16}$

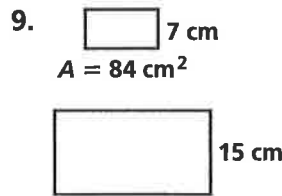
Find the similarity ratio of each pair of similar figures.

4. two regular hexagons with areas  $8 \text{ in.}^2$  and  $32 \text{ in.}^2$     $\frac{a^2}{b^2} = \frac{8}{32} \Rightarrow \frac{a}{b} = \frac{\sqrt{8}}{\sqrt{32}} = \frac{1}{2}$
5. two squares with areas  $81 \text{ cm}^2$  and  $25 \text{ cm}^2$     $9/5$
6. two triangles with areas  $10 \text{ ft}^2$  and  $360 \text{ ft}^2$     $1/6$
7. two circles with areas  $128\pi \text{ cm}^2$  and  $18\pi \text{ cm}^2$     $8/3$

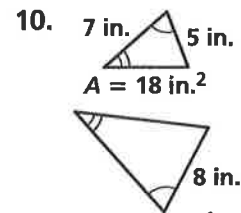
For each pair of similar figures, the area of the smaller figure is given. Find the area of the larger figure.



$A = 115.2 \text{ in.}^2$

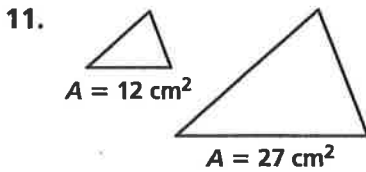


$A = 385.7 \text{ cm}^2$

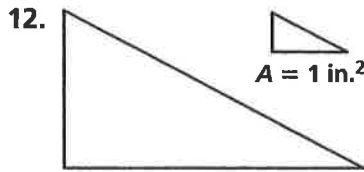


$A = 46.08 \text{ in.}^2$

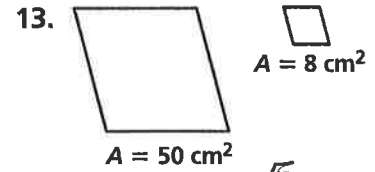
For each pair of similar figures, find the ratio of the perimeters.



$\frac{2}{3}$



$\frac{1}{2}$



$\frac{5}{2}$

14. The shorter sides of a rectangle are 6 ft. The shorter sides of a similar rectangle are 9 ft. The area of the smaller rectangle is  $48 \text{ ft}^2$ . What is the area of the larger rectangle?



$\frac{4}{9} = \frac{48}{x}$

$4x = 432$

$x = 108 \text{ ft}^2$

$\frac{6}{9} = \frac{2}{3} \rightarrow \frac{2^2}{3^2} = \frac{4}{9}$