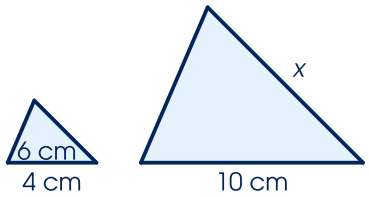
GCSE HIGHER · REVISION MAT 1

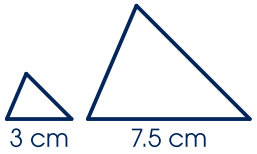
Similar shapes

1 The triangles are similar. Find x.



2 Two similar shapes have corresponding sides of 3 cm and 7.5 cm.

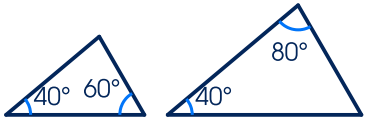
Find the scale factor.



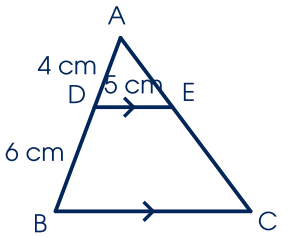
3 One triangle has angles 40°, 60°, 80°.

Another has angles 80°, 40°, 60°.

Explain why they are similar.



4 DE is parallel to BC. Find BC.



5 Two triangles are similar with length scale factor 3.

Show that the area of the larger is 9 times the area of the smaller.

6 Two similar cylinders are 6 cm and 9 cm tall.

The small one has volume 160 cm³.

Find the volume of the large one.

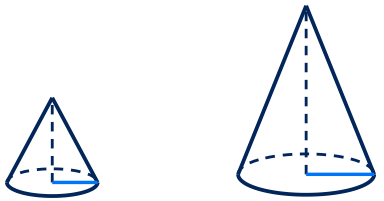


7 Explain why all circles are similar but not all rectangles are.

8 Two similar cones have surface areas 45 cm² and 125 cm².

The large cone has volume 750 cm³.

Find the volume of the small cone.



ANSWERS · REVISION MAT 1

Similar shapes

1 Scale factor 2.5

x = 15 cm

2 **2.5**

3 **Their angles are equal, so their sides are in the same ratio.**

4 Triangles ADE and ABC are similar.

AB = 10 cm, scale factor 2.5

BC = 12.5 cm

5 **Area scale factor = $3^2 = 9$**

6 Length 2 : 3, volume 8 : 27

540 cm^3

7 **Every circle is an enlargement of any other; rectangles can have different length : width ratios.**

8 Area 9 : 25, length 3 : 5, volume 27 : 125

162 cm^3