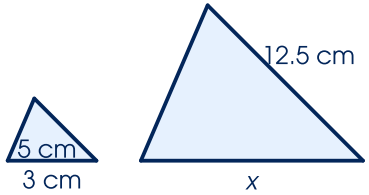
GCSE HIGHER · REVISION MAT 5

Similar shapes

1 The triangles are similar. Find x.



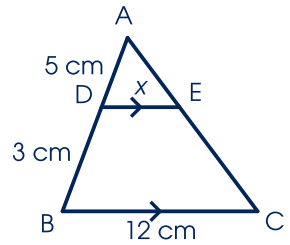
2 Two similar shapes have length scale factor 1.5.

The small one has area 20 cm².

Find the area of the large one.

3 Explain why congruent shapes are similar, but similar shapes are not always congruent.

4 DE is parallel to BC. Find DE.



5 Two similar solids have volumes in the ratio 8 : 27.

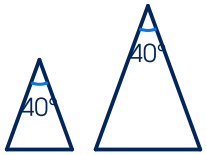
Show that their heights are in the ratio 2 : 3.

6 Two similar tins have surface areas 150 cm² and 216 cm².

The small tin has volume 250 cm³.

Find the volume of the large tin.

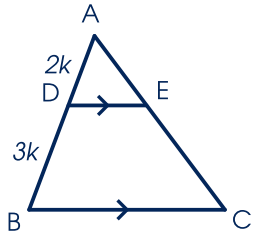
7 Show that any two isosceles triangles with an apex angle of 40° are similar.



8 In triangle ABC, DE is parallel to BC with AD : DB = 2 : 3.

Triangle ADE has area 12 cm².

Find the area of DBCE.



Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Similar shapes

1 Scale factor 2.5

x = 7.5 cm

2 Area factor 2.25

45 cm²

3 **Congruent shapes have scale factor 1; similar shapes can be different sizes.**

4 AB = 8 cm, scale factor $\frac{5}{8}$

DE = 7.5 cm

5 $\sqrt[3]{8} : \sqrt[3]{27} = 2 : 3$

6 Area 25 : 36, length 5 : 6, volume 125 : 216

432 cm³

7 **Base angles are both 70° in each, so all angles match.**

8 Length 2 : 5, area 4 : 25

ABC = 75 cm²

DBCE = 63 cm²

Mr&Mrs MATHS