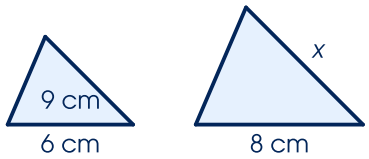
GCSE HIGHER · REVISION MAT 4

Similar shapes

1 The triangles are similar. Find x.

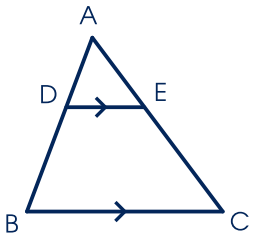


2 Two similar shapes have an area scale factor of 16.

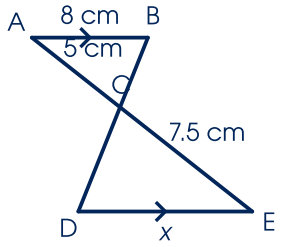
Find the length scale factor.

3 DE is parallel to BC, with D on AB and E on AC.

Explain why triangles ADE and ABC are similar.



4 AB is parallel to DE. Find DE.



5 Two similar cubes have surface areas 24 cm² and 96 cm².

Show that their volumes are 8 cm³ and 64 cm³.

6 Two similar statues are 20 cm and 50 cm tall.

The small one has mass 4 kg.

Find the mass of the large one.

7 Explain why the area scale factor is the square of the length scale factor.

8 A cone of height 12 cm has its top 4 cm cut off parallel to the base.

What fraction of the volume is removed?



Mr&Mrs MATHS

ANSWERS · REVISION MAT 4

Similar shapes

1 Scale factor $\frac{4}{3}$

x = 12 cm

2 **4**

3 **Corresponding angles are equal (DE ∥ BC) and angle A is shared.**

4 Scale factor 1.5

DE = 12 cm

5 Sides 2 cm and 4 cm

$2^3 = 8$, $4^3 = 64$

6 Length 2 : 5, volume 8 : 125

62.5 kg

7 **Area depends on two lengths, each multiplied by the scale factor.**

8 Small cone is similar, length 1 : 3

$\frac{1}{27}$