GCSE HIGHER · REVISION MAT 2

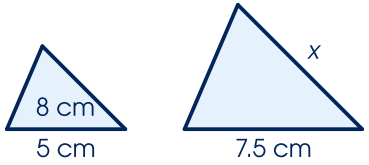
Similar shapes

1 A 4 cm by 7 cm rectangle is similar to a 12 cm by x cm rectangle.

Find x.

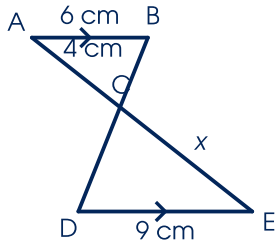


2 The triangles are similar. Find x.



3 Explain why two triangles with two pairs of equal angles must be similar.

4 AB is parallel to DE. Find CE.



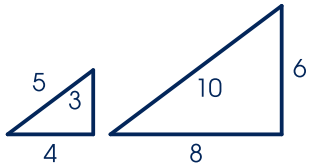
5 Show that similar shapes with sides in the ratio 2 : 5 have areas in the ratio 4 : 25.

6 Two similar triangles have areas 20 cm² and 45 cm².

A side of the small one is 6 cm.

Find the corresponding side of the large one.

7 Show that a 3–4–5 triangle is similar to a 6–8–10 triangle.



8 Two similar solids have volumes 64 cm³ and 216 cm³.

The small one has surface area 80 cm².

Find the surface area of the large one.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Similar shapes

1 Scale factor 3

$x = 21$

2 Scale factor 1.5

$x = 12$ cm

3 **The third angles must also be equal (angles add to 180°), so all angles match.**

4 Triangles ABC and EDC are similar.

Scale factor 1.5

CE = 6 cm

5 **Area ratio = $2^2 : 5^2$**

6 Area 4 : 9, length 2 : 3

9 cm

7 **Every side is doubled.**

8 Length 4 : 6 = 2 : 3, area 4 : 9

180 cm²