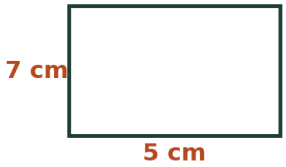
Similar Shapes (Lengths)

Grade 5 topic · Foundation and Higher · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Foundation students: aim for Questions 1–15 (40 marks) and have a go at the rest. Higher students: complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 59 marks.

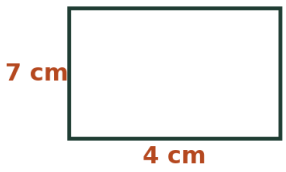
Warm-up

1 Two similar rectangles have lengths 5 cm and 10 cm. Work out the scale factor from the smaller rectangle to the larger one. **[2 marks]**



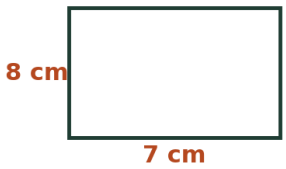
Answer _____

2 Two similar rectangles have lengths 4 cm and 16 cm. Work out the scale factor from the smaller rectangle to the larger one. **[2 marks]**



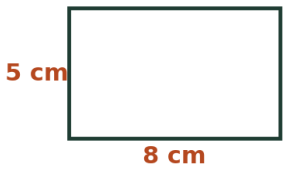
Answer _____

3 Two similar rectangles have lengths 7 cm and 35 cm. Work out the scale factor from the smaller rectangle to the larger one. **[2 marks]**



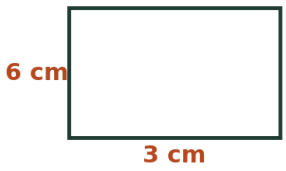
Answer _____

4 Two similar rectangles have lengths 8 cm and 40 cm. Work out the scale factor from the smaller rectangle to the larger one. **[2 marks]**



Answer _____

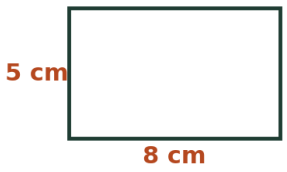
5 Two similar rectangles have lengths 3 cm and 6 cm. Work out the scale factor from the smaller rectangle to the larger one. **[2 marks]**



Answer _____

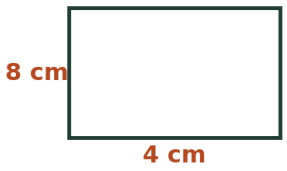
Core

6 Two similar rectangles have lengths 8 cm and 12 cm. The smaller rectangle is 5 cm wide. Work out the width of the larger rectangle. **[3 marks]**



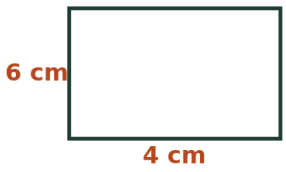
Answer _____

7 Two similar rectangles have lengths 4 cm and 20 cm. The smaller rectangle is 8 cm wide. Work out the width of the larger rectangle. **[3 marks]**



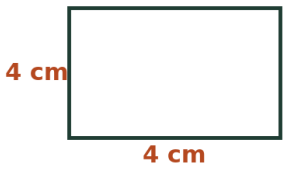
Answer _____

8 Two similar rectangles have lengths 4 cm and 6 cm. The smaller rectangle is 6 cm wide. Work out the width of the larger rectangle. **[3 marks]**



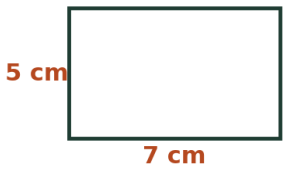
Answer _____

9 Two similar rectangles have lengths 4 cm and 12 cm. The smaller rectangle is 4 cm wide. Work out the width of the larger rectangle. **[3 marks]**



Answer _____

10 Two similar rectangles have lengths 7 cm and 14 cm. The smaller rectangle is 5 cm wide. Work out the width of the larger rectangle. **[3 marks]**



Answer _____

Stretch

11 Triangles ABC and DEF are similar. AB = 8 cm, BC = 8 cm and DE = 32 cm. Work out the length of EF. **[3 marks]**

Answer _____

12 Triangles ABC and DEF are similar. AB = 3 cm, BC = 7 cm and DE = 9 cm. Work out the length of EF. **[3 marks]**

Answer _____

13 Triangles ABC and DEF are similar. AB = 4 cm, BC = 7 cm and DE = 16 cm. **[3 marks]**
Work out the length of EF.

Answer _____

14 Triangles ABC and DEF are similar. AB = 8 cm, BC = 9 cm and DE = 32 cm. **[3 marks]**
Work out the length of EF.

Answer _____

15 Triangles ABC and DEF are similar. AB = 8 cm, BC = 6 cm and DE = 12 cm. **[3 marks]**
Work out the length of EF.

Answer _____

Challenge

16 Two similar triangles have perimeters 30 cm and 90 cm. The smaller triangle has a side of 5 cm. Work out the corresponding side in the larger triangle. **[4 marks]**

Answer _____

17 A photo 32 cm by 24 cm is enlarged so the longer side is 160 cm. Work out the shorter side. **[4 marks]**

Answer _____

18 Two similar cuboids have heights 8 cm and 16 cm. The smaller has length 4 cm. Work out the length of the larger. **[3 marks]**

Answer _____

19 A model of a building is 1 : 50. The model is 80 cm tall. Work out the height of the building in metres. **[4 marks]**

Answer _____

20 Triangle ABC is similar to triangle PQR with scale factor 3/2 from ABC to PQR. PQ = 10.5 cm. Work out AB. **[4 marks]**

Answer _____