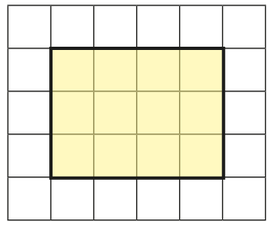
Area of rectangles and parallelograms

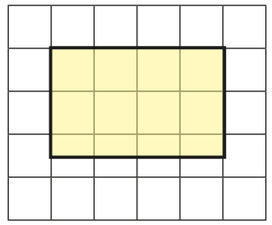
1 Use the centimetre squares to find the areas of the shapes.

a)



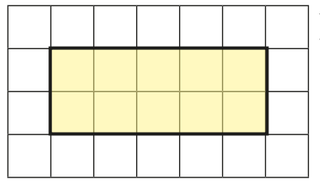
area = 12 cm²

c)



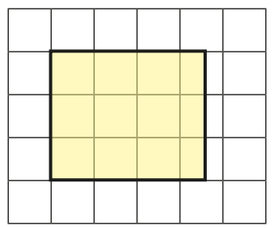
area = 10 cm²

b)



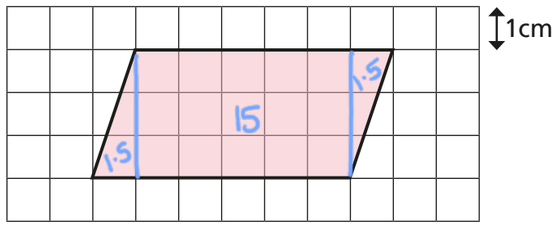
area = 10 cm²

d)



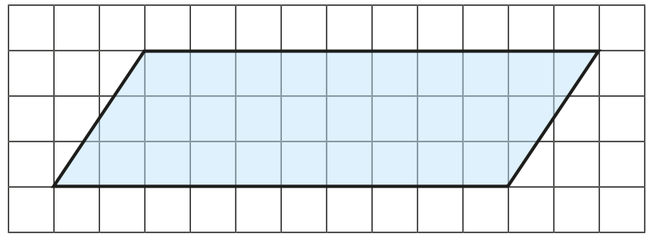
area = 10.5 cm²

2 Show that the area of the parallelogram is 18 cm²



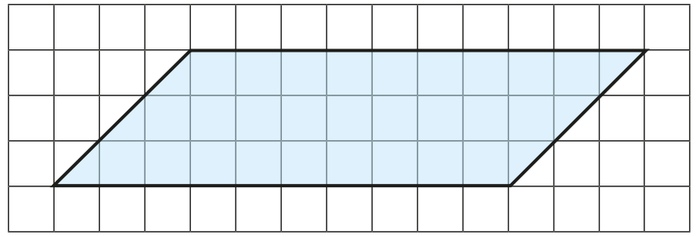
3 Work out the area of these parallelograms.

a)



30 cm²

b)

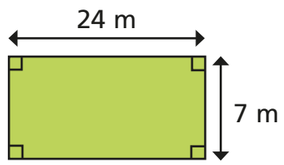


30 cm²

c) Discuss what is the same and what is different about the shapes and the answers to part a) and part b). How did you find the area?

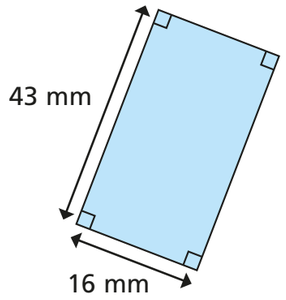
4 Calculate the areas of the rectangles.

a)



168 m²

b)



688 mm²

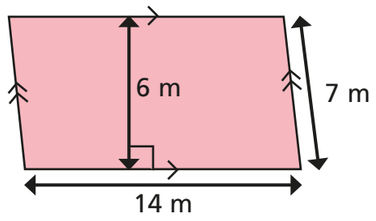
5 A rectangular garden has an area of 24 m^2

Complete the table showing the possible lengths and widths.

Length	8 m	12 m	6m	10m	16 m	20m
Width	3m	2m	4 m	2.4 m	1·5m	120 cm

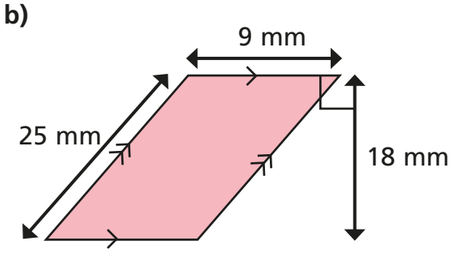
6 Work out the areas of the parallelograms.

a)



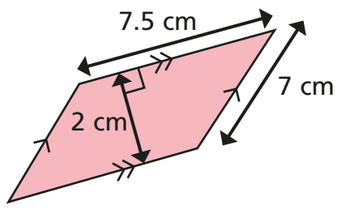
area = 84 m^2

b)



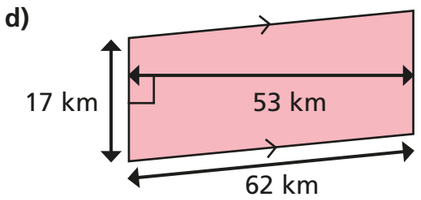
area = 162 mm^2

c)



area = 15 cm^2

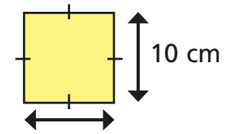
d)



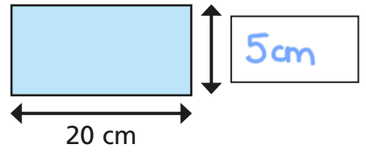
area = 901 km^2

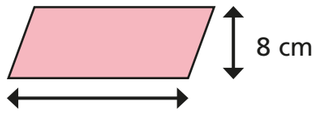
7 The square, rectangle and parallelogram have the same area.

Find the missing lengths.



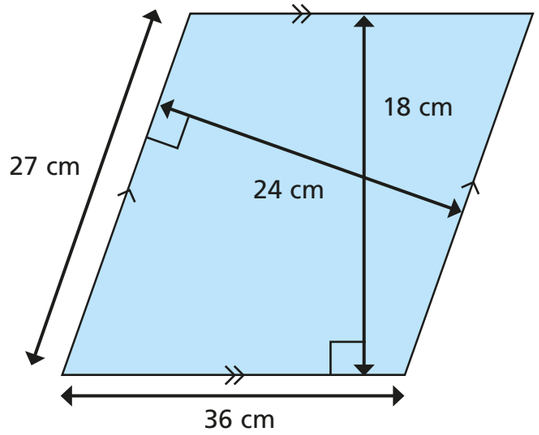
10 cm





12·5cm

8 Write two different calculations to work out the area of the parallelogram.

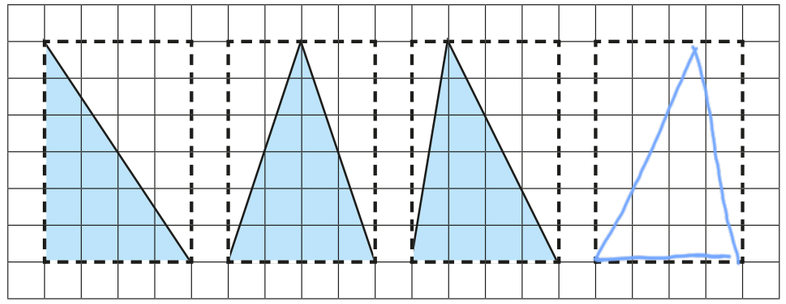


36×18 = 648cm^2

27×24 = 648cm^2

Area of triangles

1 **a)** Find the area of the three triangles.



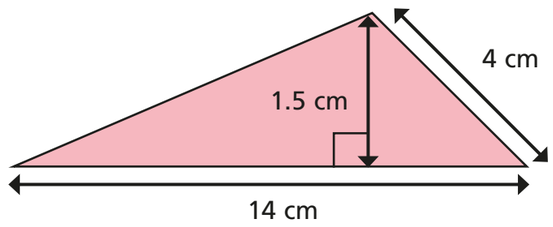
12 cm² 12 cm² 12 cm²

b) What do you notice? Explain why this happens.

Same area because the bases and heights are the same.

c) In the last rectangle, draw a different triangle with the same area.

2 **a)** What is the area of the triangle? Circle your answer.

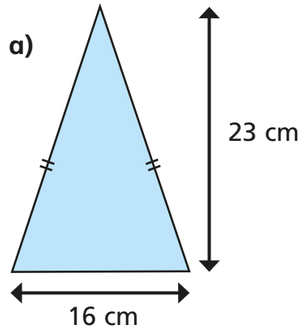


28 cm² **21 cm²** **10.5 cm²** **56 cm²**

b) Discuss why somebody might choose one of the other options.

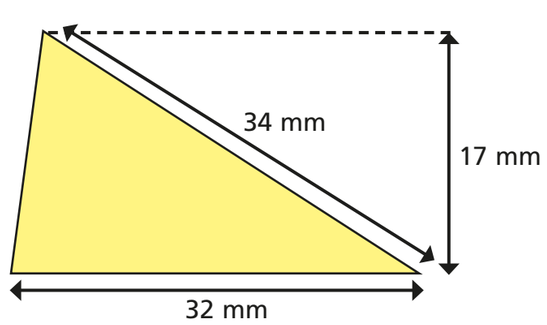
3 Work out the areas of the triangles.

a)



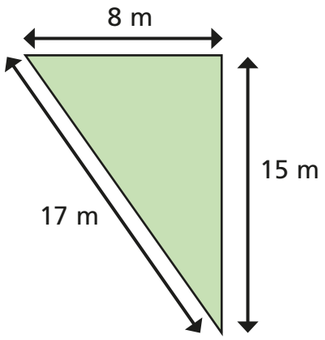
area = 184 cm²

b)



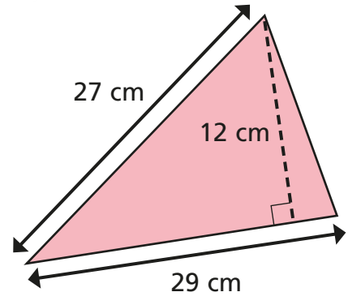
area = 272 mm²

c)



area = 60 m²

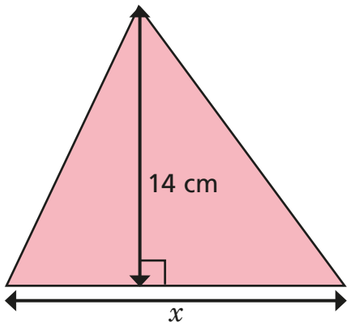
d)



area = 174 cm²

4 The area of the triangle is 70 cm^2

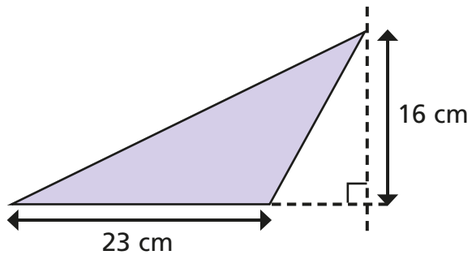
Find the length of the side marked x.

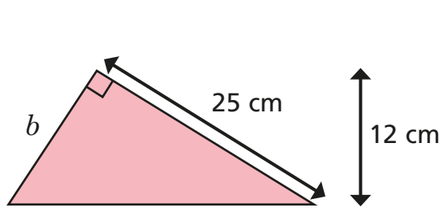


$x =$ 10 cm

5 These triangles have the same area.

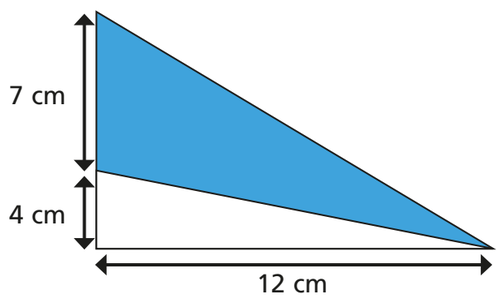
Work out the value of the length marked b.





$b =$ 14.72 cm

6 What fraction of the large triangle is shaded?



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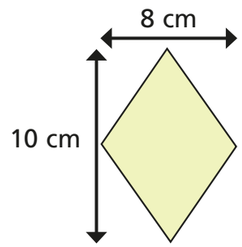
7 A rhombus can be divided into two triangles.

Find the area of the rhombus.



area = 40 cm^2

8 How can you work out the area of the shaded triangle?

Talk about it with a partner.