



## Area

- Calculating the area of triangles, parallelograms and trapeziums
- Calculating the area of compound shapes

Keywords

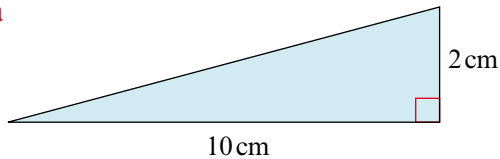
You should know

explanation 1a

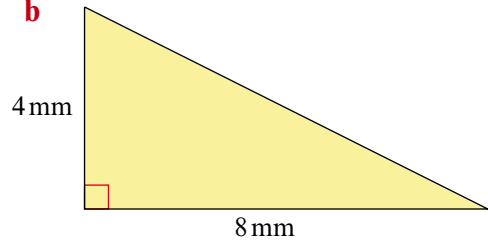
explanation 1b

**1** Calculate the area of these triangles.

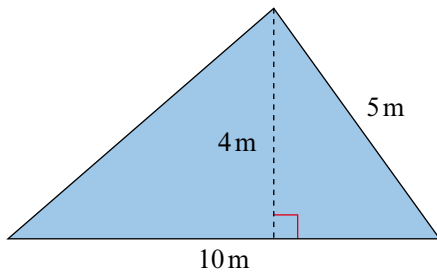
**a**



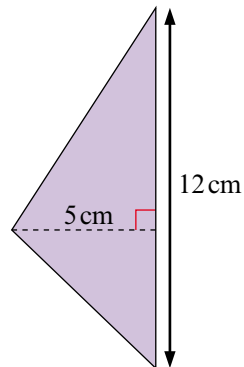
**b**



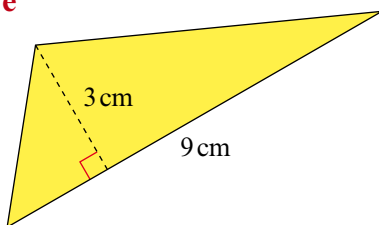
**c**



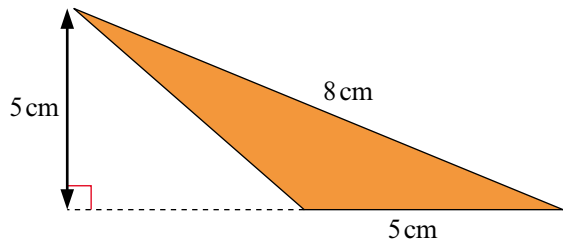
**d**



**e**

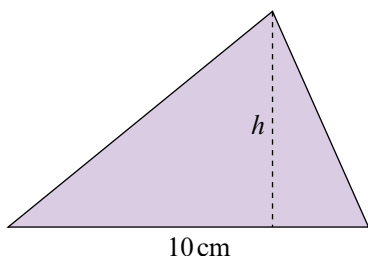


**f**

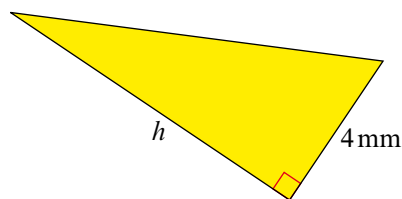


- 2** Calculate the height of each triangle. (The area and the base length of each triangle is given.)

**a** Area =  $25 \text{ cm}^2$



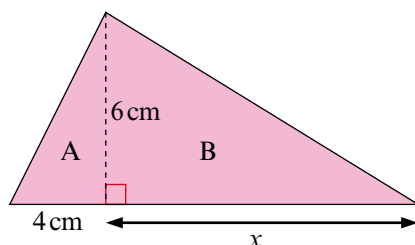
**b** Area =  $20 \text{ mm}^2$



- 3** Triangle B has double the area of triangle A.

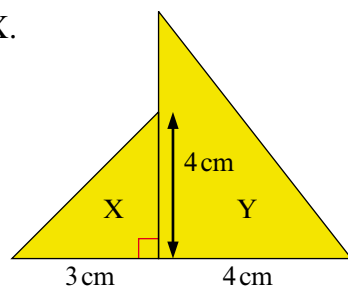
The height of both triangles is 6 cm.

- a** Calculate the area of triangle A.  
**b** What is the area of triangle B?  
**c** Calculate the value of  $x$ .



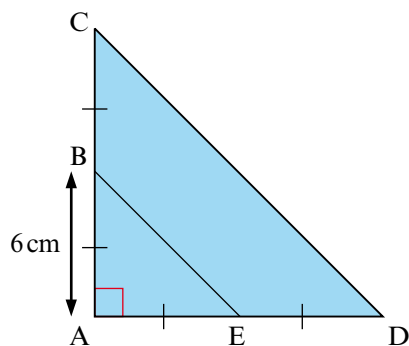
- 4** The area of triangle Y is three times that of triangle X.

- a** Calculate the area of triangle X.  
**b** Calculate the area of triangle Y.  
**c** Calculate the height of triangle Y.



- 5** Look at this diagram.

- a** Calculate the area of triangle ABE.  
**b** Calculate the area of triangle ACD.  
**c** Calculate the area of the trapezium BCDE.

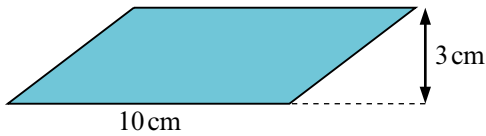


explanation 2a

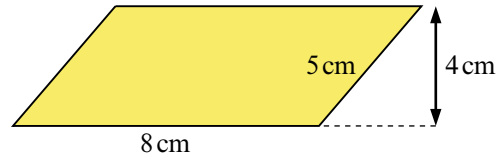
explanation 2b

**6** Calculate the area of these parallelograms.

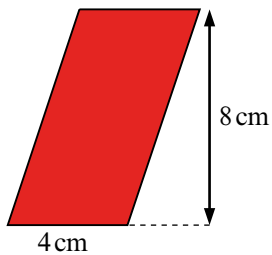
a



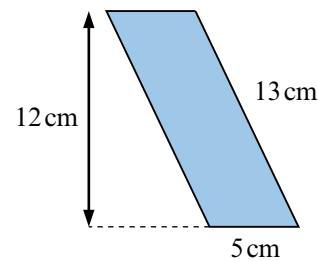
b



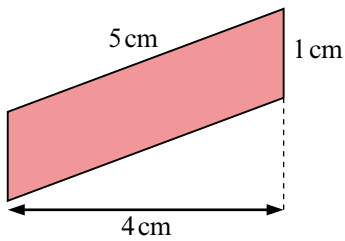
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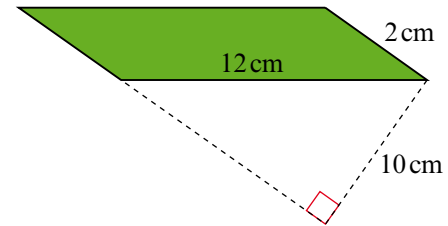
d



e



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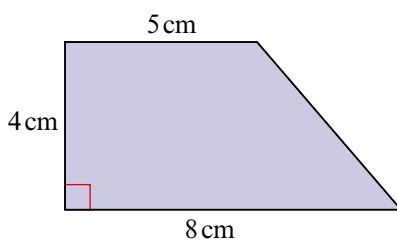


explanation 3a

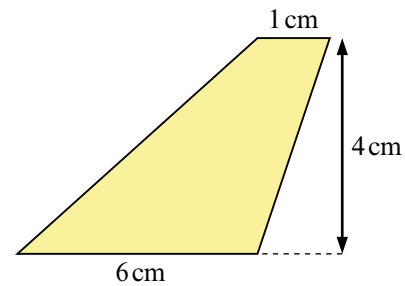
explanation 3b

**7** Calculate the area of these trapeziums.

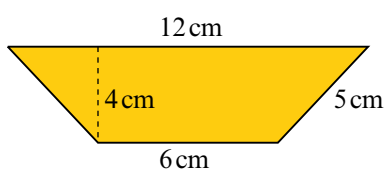
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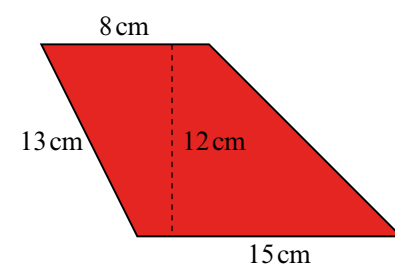
b



c



d

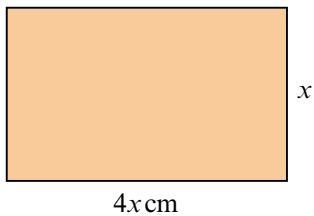


explanation 4a

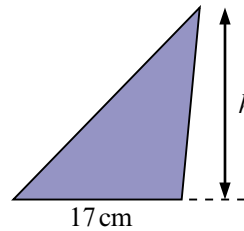
explanation 4b

**8** Calculate the marked lengths in these shapes.

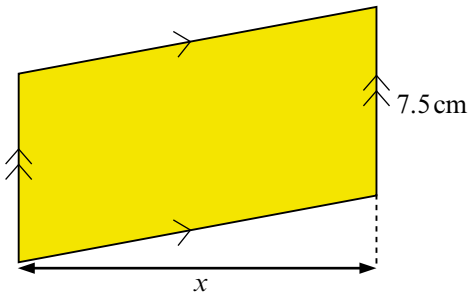
**a** Area =  $100 \text{ cm}^2$



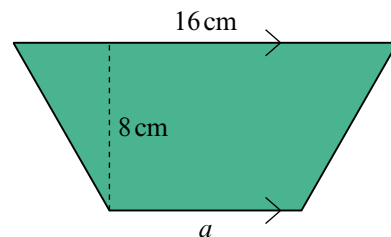
**b** Area =  $51 \text{ cm}^2$



**c** Area =  $150 \text{ cm}^2$



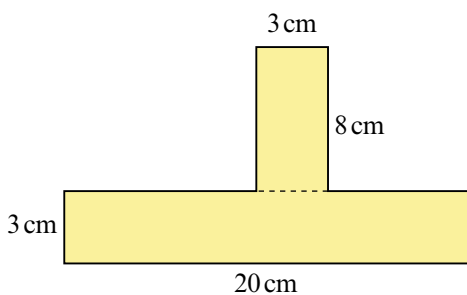
**d** Area =  $96 \text{ cm}^2$



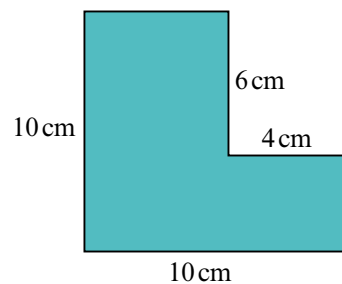
explanation 5

**9** Calculate the area of these compound shapes.

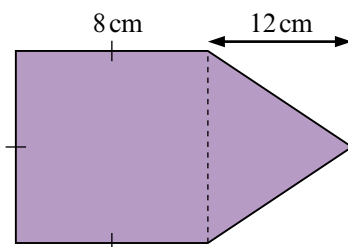
**a**



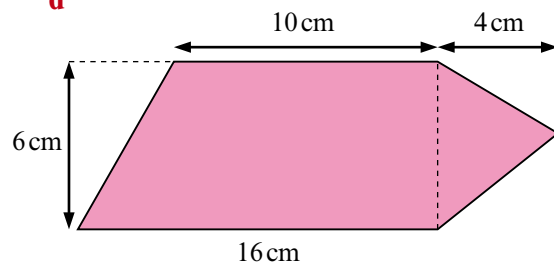
**b**



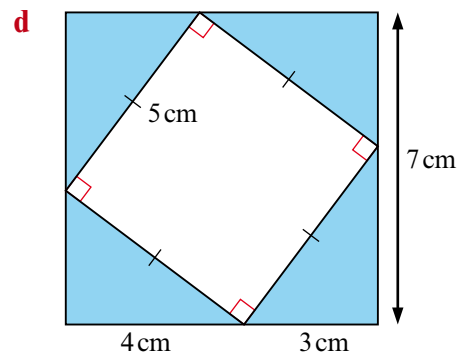
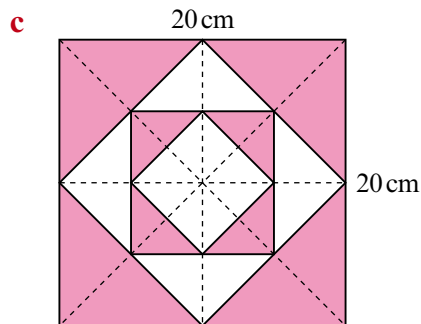
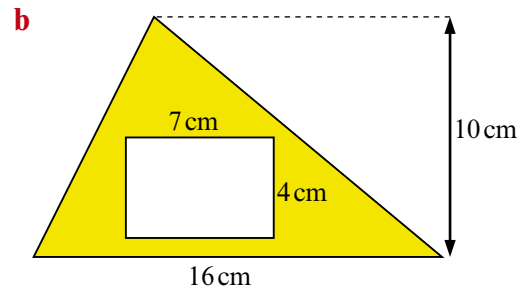
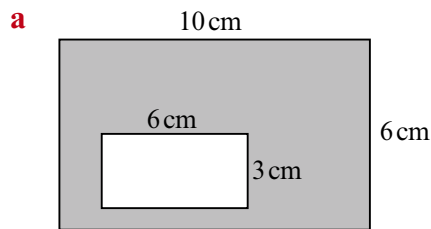
**c**



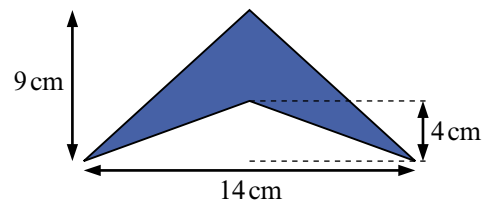
**d**



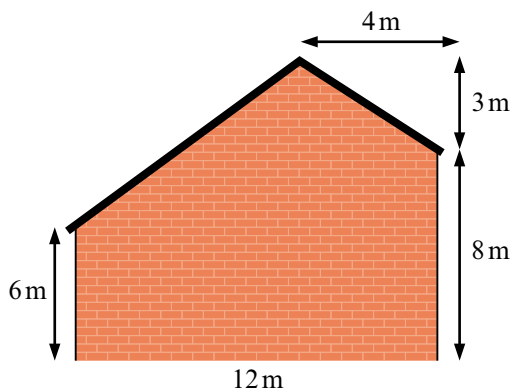
**10** Calculate the shaded area of each of these.



**11** An arrowhead has dimensions as shown. Showing your method clearly, calculate the shaded area.



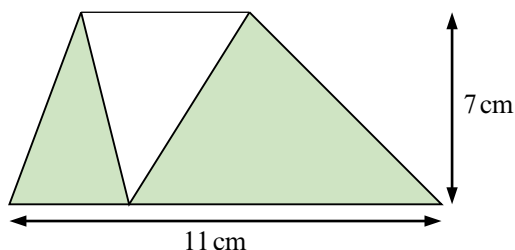
**12** The side of a house has the dimensions shown. Showing your method clearly, calculate the area of this side of the house.



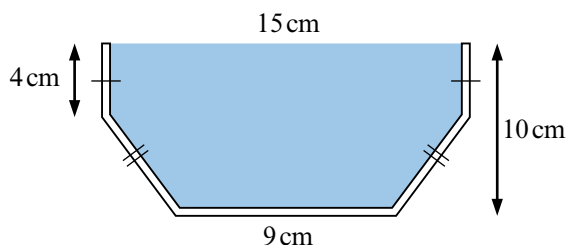
Hint: can you divide the shape into two trapeziums?

**13** These questions are about compound shapes made from rectangles, triangles and trapeziums.

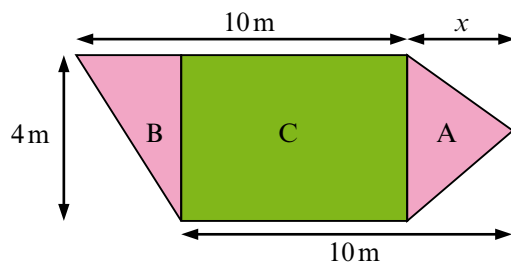
**a** Calculate the area that is shaded.



**b** A piece of guttering has a cross-section as shown. Calculate the area of the cross-section.



**c** A garden consists of a rectangular patch of grass, C, and two triangular flowerbeds, A and B.



- i** Write an expression for the area of A.
- ii** Write an expression for the area of B.
- iii** Write an expression for the area of C.
- iv** Work out the total area of the garden.