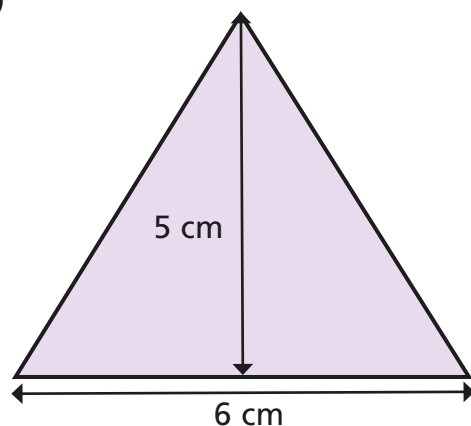


Calculate the area of triangles, rectangles and parallelograms

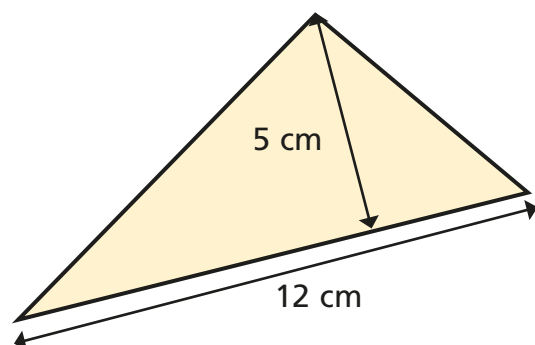
1 Find the areas of the triangles.

a)



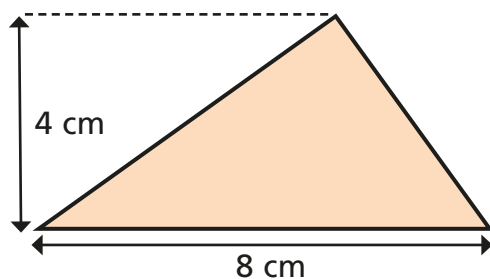
cm²

c)



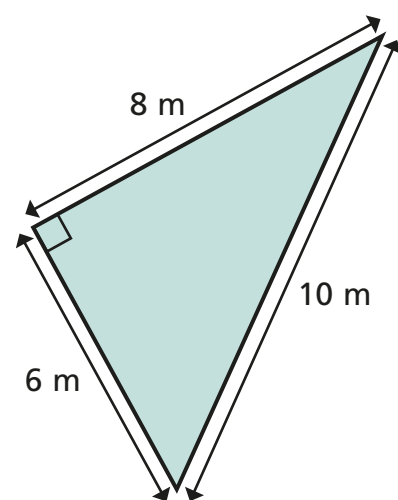
cm²

b)



cm²

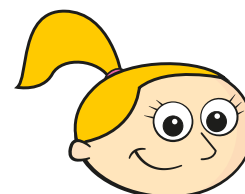
d)



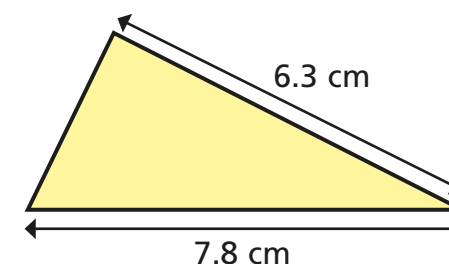
m²

2

Eva is working out the area of the triangle.



The base is 7.8 cm and the length of one side is 6.3 cm. I multiply and then divide by 2

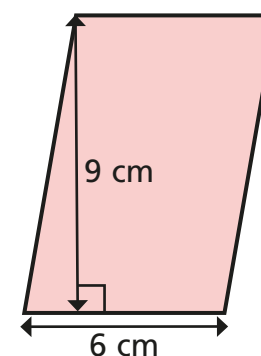


What mistake has Eva made?

3

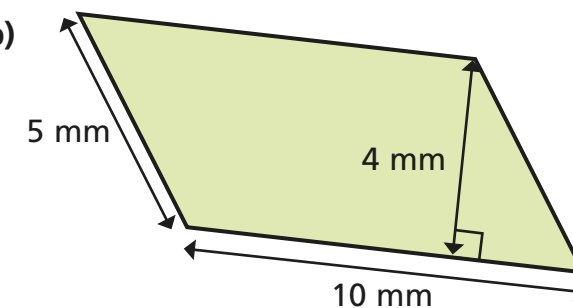
Find the areas of the parallelograms.

a)



cm²

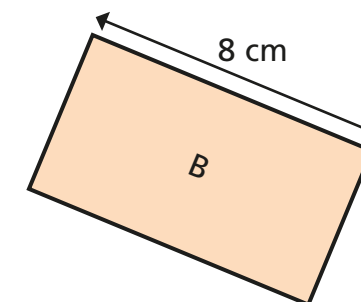
b)



mm²

4

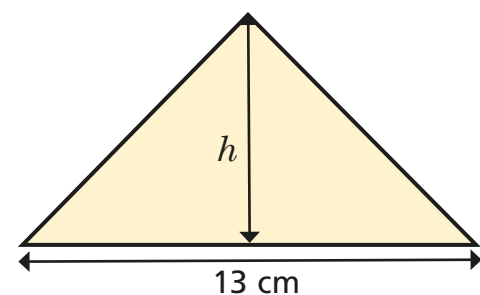
The two rectangles have the same area.



Work out the width of rectangle B.

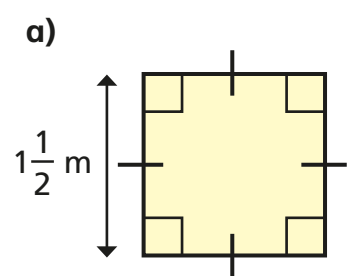
cm

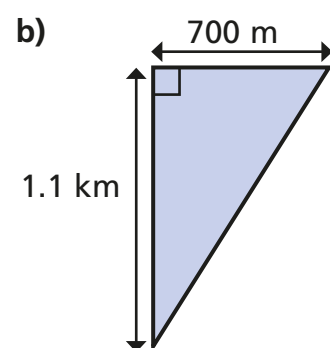
- 5 The area of the triangle is 26 cm^2
What is its height?

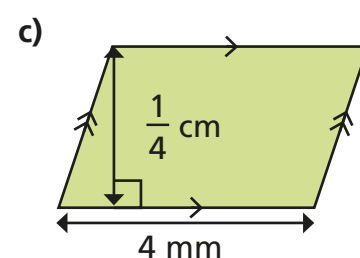


$$h = \boxed{} \text{ cm}$$

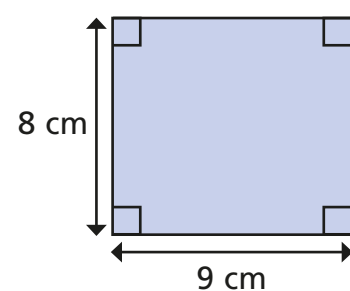
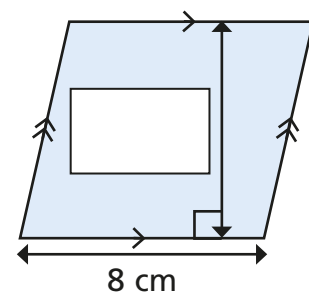
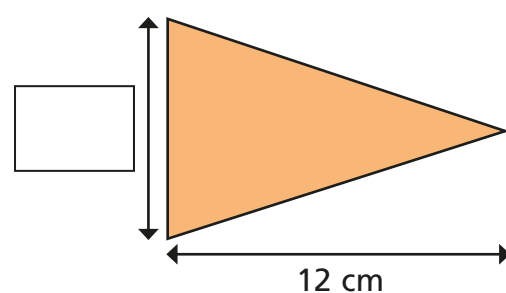
- 6 Work out the areas of the shapes.





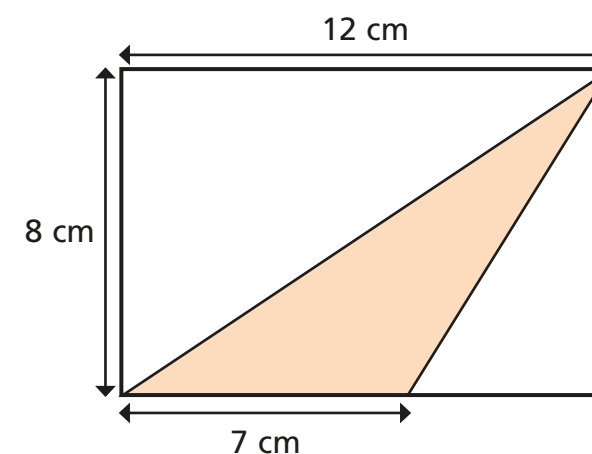


- 7 These three shapes all have the same area.

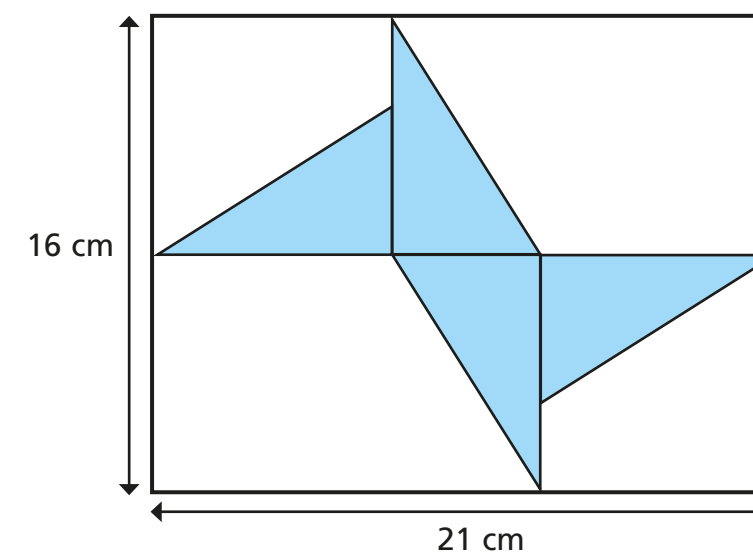


Find the missing values.

- 8 A rectangle is split into three triangles.
One of the triangles is shaded.
What is the ratio of shaded to non-shaded parts of the shape?


 :

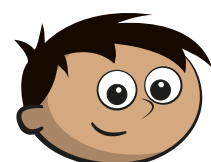
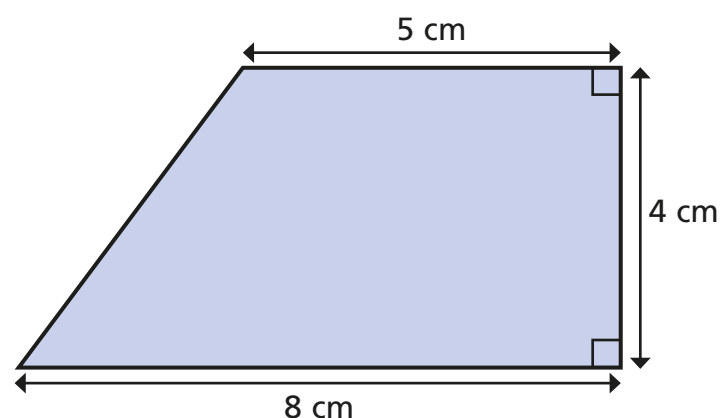
- 9 A logo is made from four identical right-angled triangles.



Find the area of one of the triangles.

Calculate the area of a trapezium

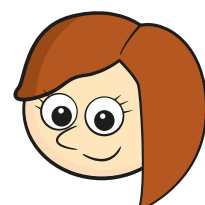
- 1 Amir and Rosie are working out the area of this trapezium.



Amir

I will divide the shape into a rectangle and triangle, and work out the area of each one.

I will just use the formula for the area of a trapezium.



Rosie

- a) Use Amir's method to find the area of the trapezium.

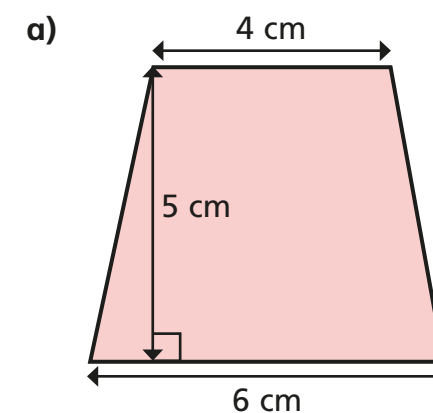
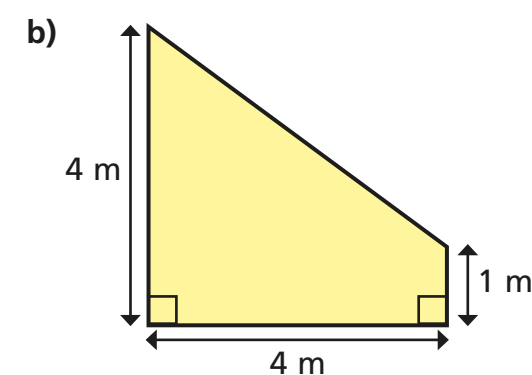
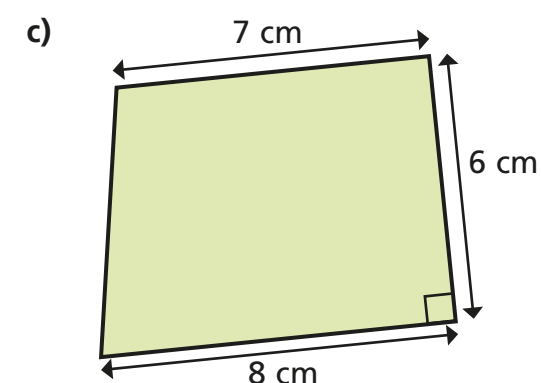
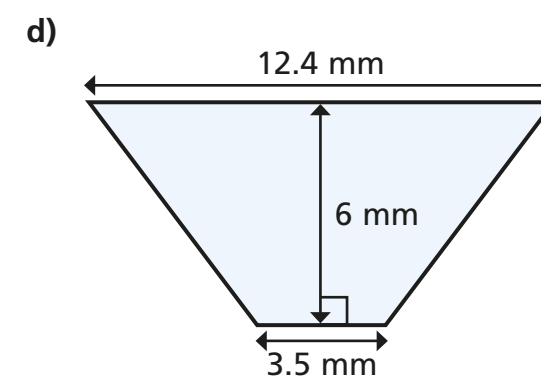
 cm^2

- b) Use Rosie's method to find the area of the trapezium.

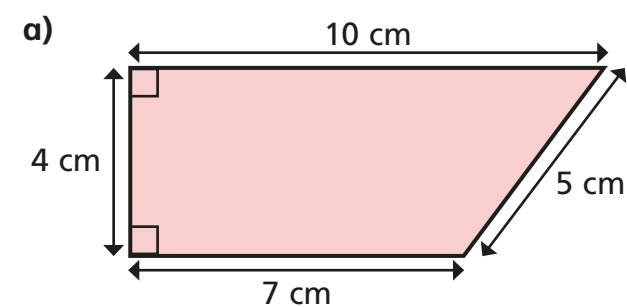
 cm^2

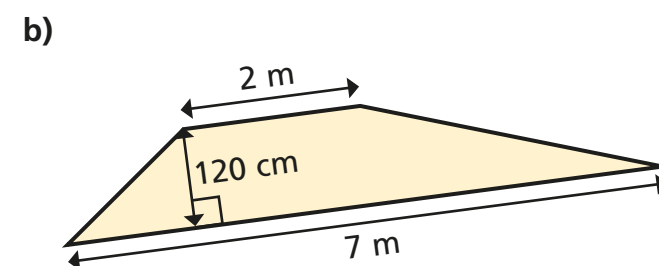
Whose method do you prefer? _____

- 2 Find the area of each trapezium.


 cm^2

 m^2

 cm^2

 mm^2

3 Work out the area of each trapezium.

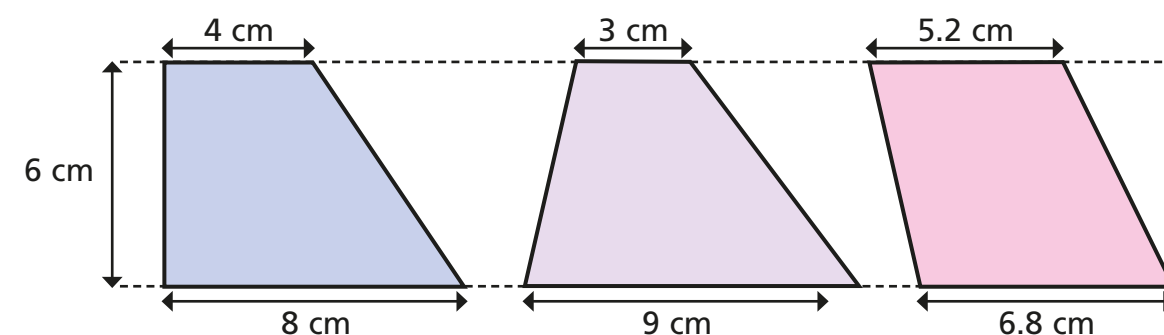




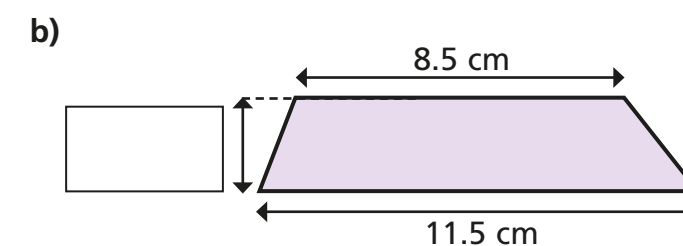
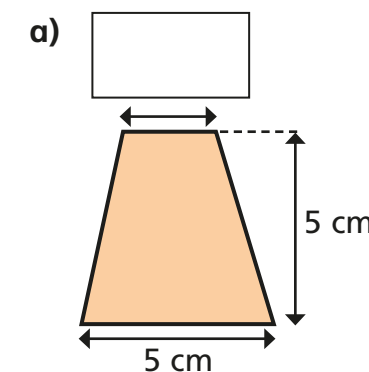
c) Discuss with a partner what mistakes could be made when working out the areas in parts a) and b).



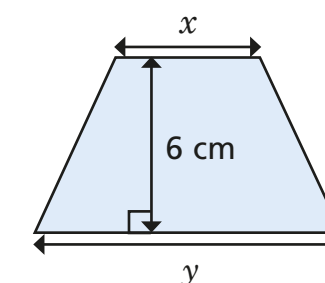
4 Explain why these trapeziums all have the same area.



5 The area of each trapezium is 20 cm^2
Find and label the missing lengths.



6 The area of the trapezium is 24 cm^2

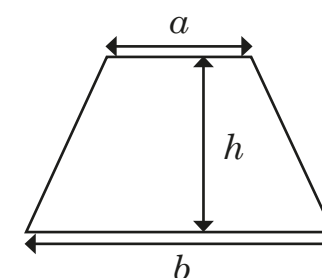


Write three possible pairs of values of x and y .

$x =$ cm	$y =$ cm
$x =$ cm	$y =$ cm
$x =$ cm	$y =$ cm

7 Prove the statement.

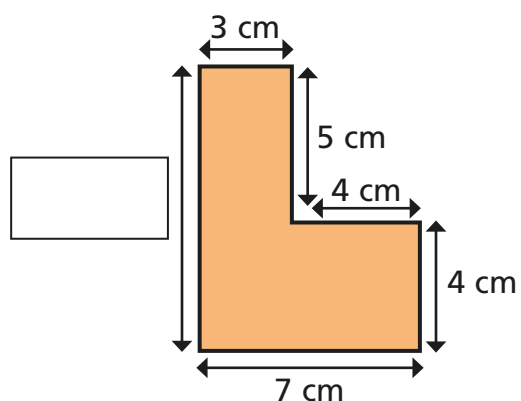
The formula for a trapezium is equal to the area of a parallelogram when the lengths of a and b are equal.



Calculate the perimeter and area of compound shapes (1)

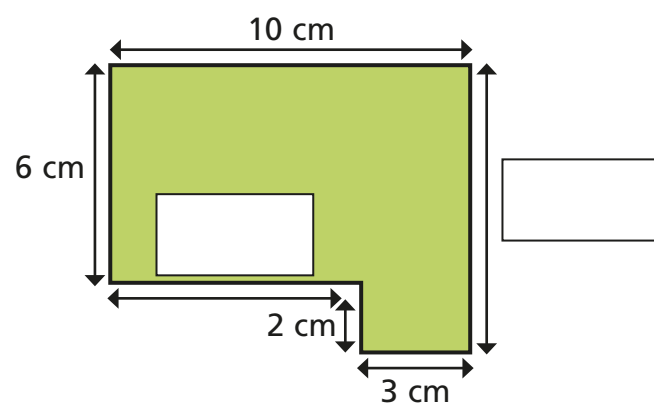
1 Work out the unknown lengths and then find the perimeter of each shape.

a)



perimeter = cm

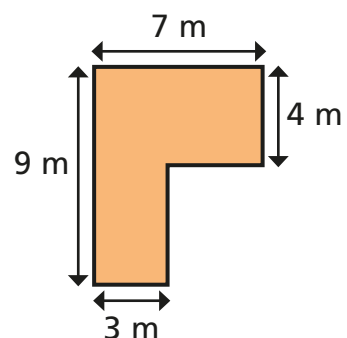
b)



perimeter = cm

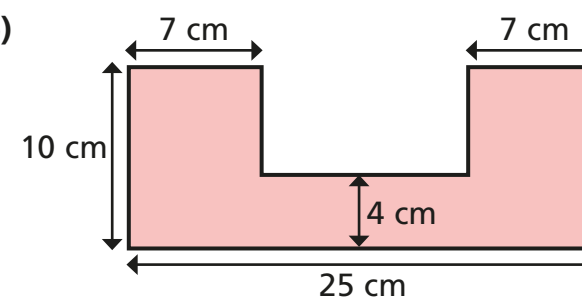
2 Work out the area of each shape.

a)



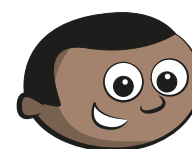
area = m²

b)



area = cm²

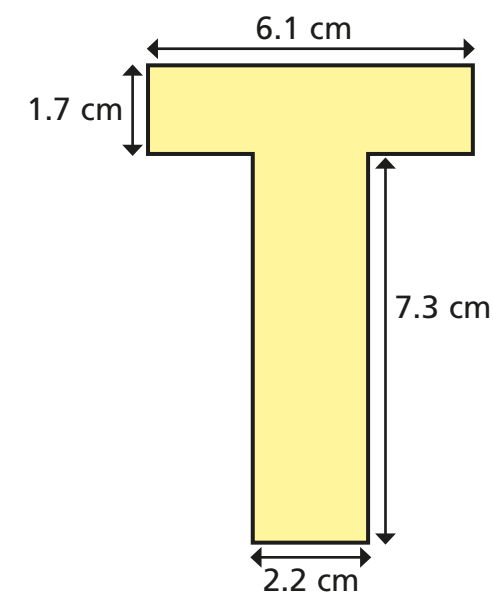
3



You can't work out the perimeter of this shape as you don't know the lengths of all the sides.

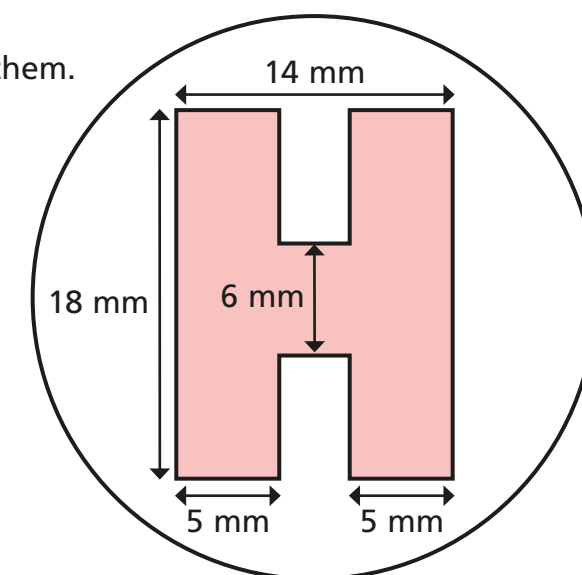
Is Mo correct? _____

Explain your answer.



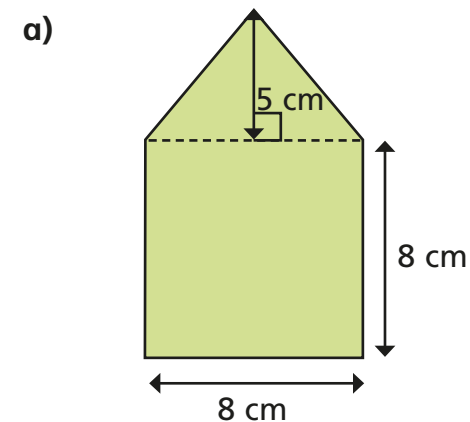
4

Some stickers have the letter H on them. What is the area of the letter H?

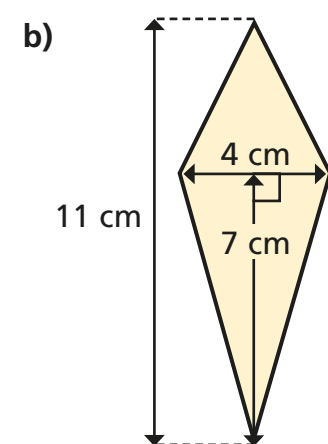


mm²

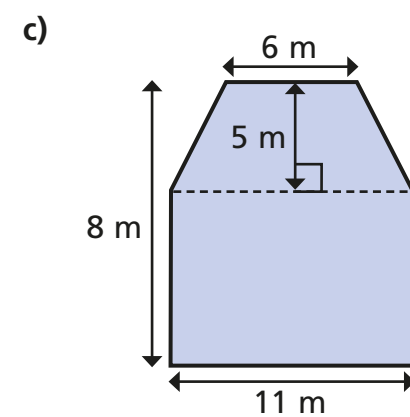
5 Find the area of each compound shape.



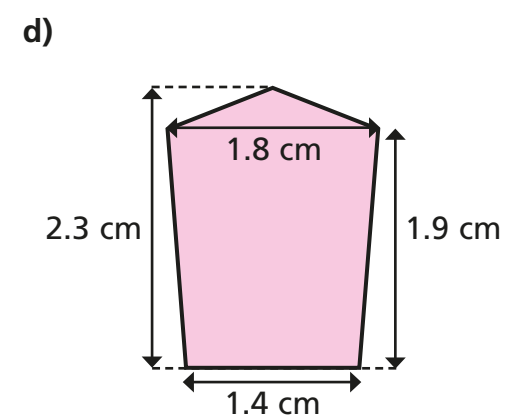
cm²



cm²



m²

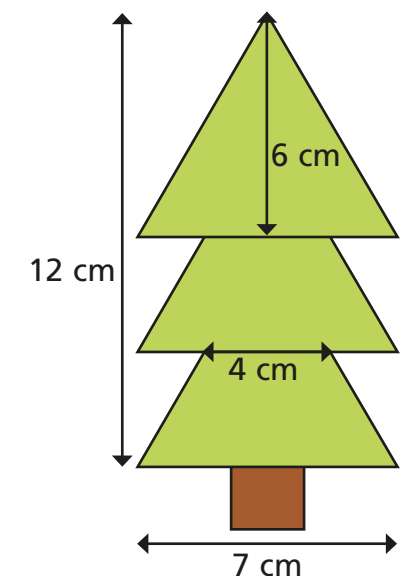


cm²

6 Dani makes a picture of a tree.

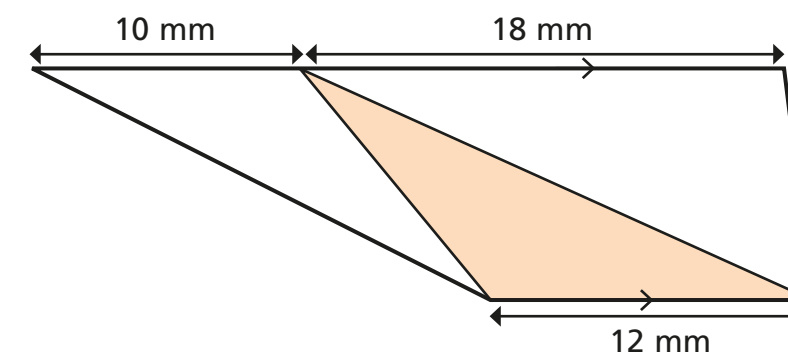
The tree is made up of a green triangle, two congruent green trapeziums and a brown square.

Find the area of the green part of the tree.

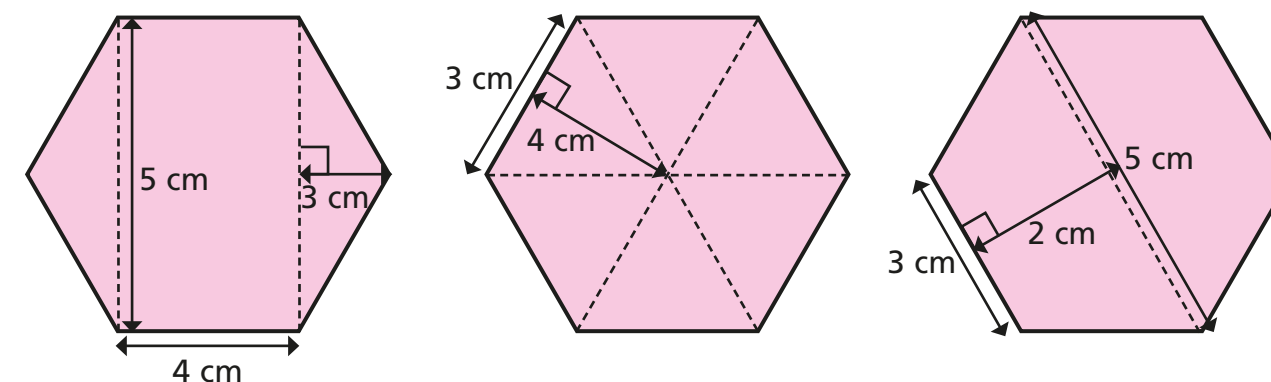


cm²

7 What fraction of the shape is shaded?

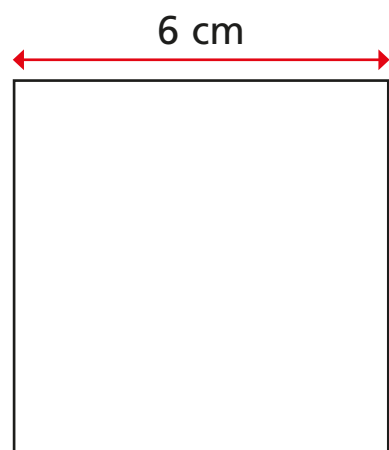


8 Which hexagon has the greatest area?



Understand π as a ratio

1



a) What is the length of the square?

b) What is the perimeter of the square?

c) What is the ratio of length : perimeter of the square? :

d) Will this ratio always be the same? Talk about it with a partner.

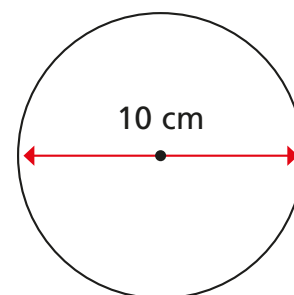
e) Will the ratio be the same for any other shapes? Why?



2

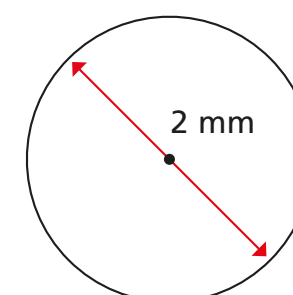
What is the diameter of each of these circles?

a)



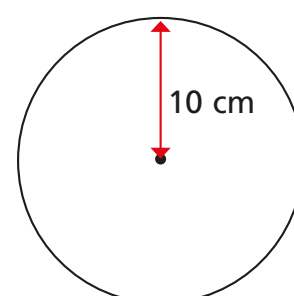
diameter =

c)



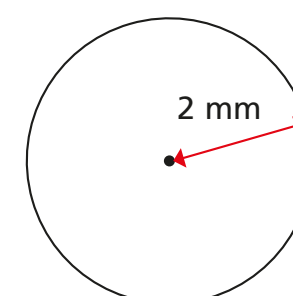
diameter =

b)



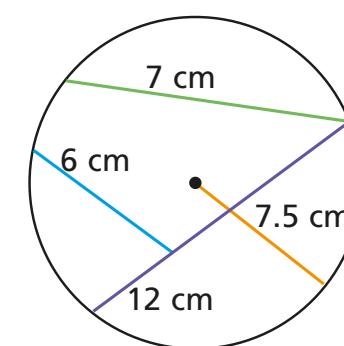
diameter =

d)



diameter =

3



What is the diameter of the circle?

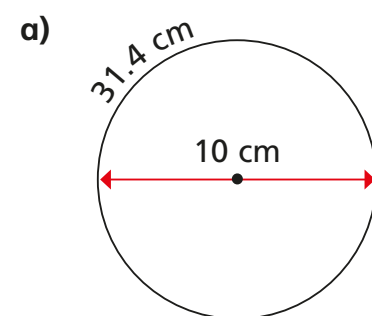
diameter =

How do you know? Talk about it with a partner.

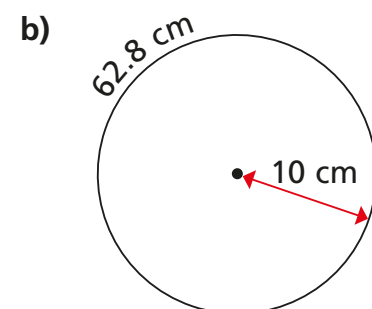


4

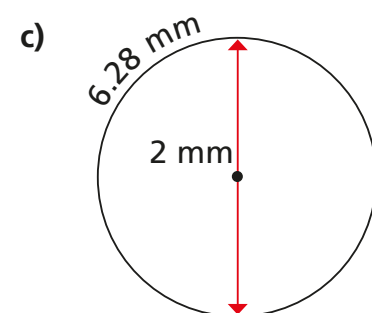
Write the ratio of diameter : circumference for each circle in the form 1 : n



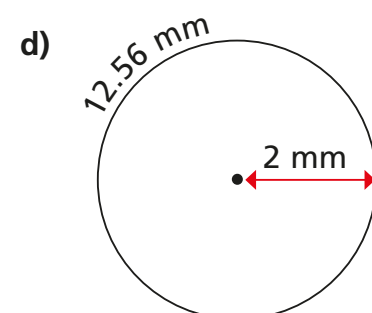
$10 \text{ cm} : 31.4 \text{ cm} = 1 : \boxed{}$



$$20 \text{ cm} : 62.8 \text{ cm} = \boxed{} : \boxed{}$$



$$\boxed{} \div \boxed{} = \boxed{} \div \boxed{}$$



$$\boxed{} \div \boxed{} = \boxed{} \div \boxed{}$$

e) What do you notice about your answers?

f) Complete the sentence.

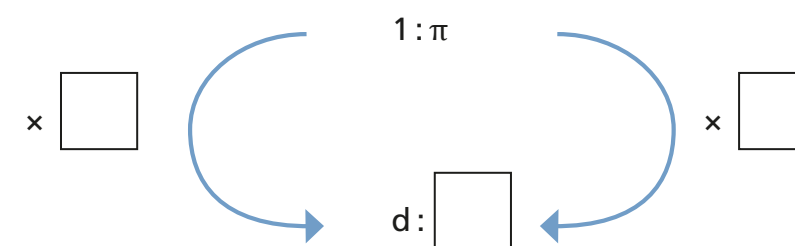
For any circle, the ratio of diameter:circumference can be written as

1: , or more accurately 1:___

5

Complete this representation.

diameter : circumference



The circumference of a circle is equal to _____

C =

6

Calculate the circumference of the circles.

