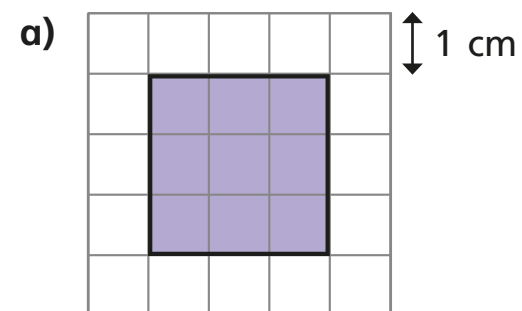
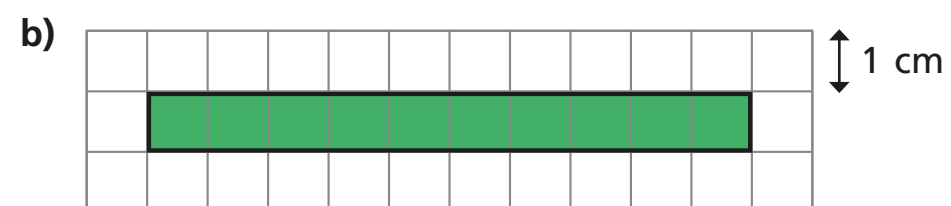


Perimeter on a grid

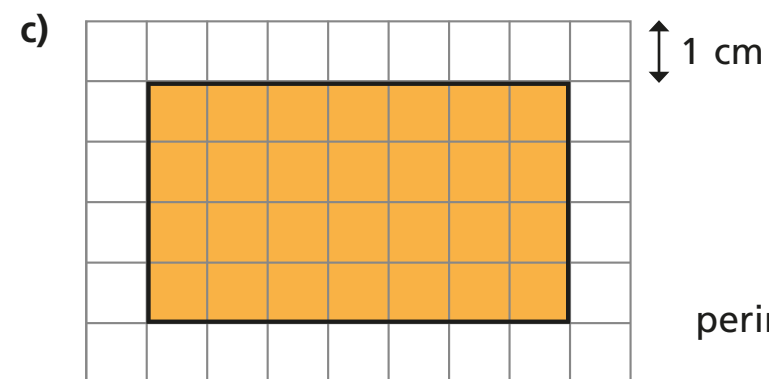
1 Work out the perimeter of each rectangle.



perimeter =

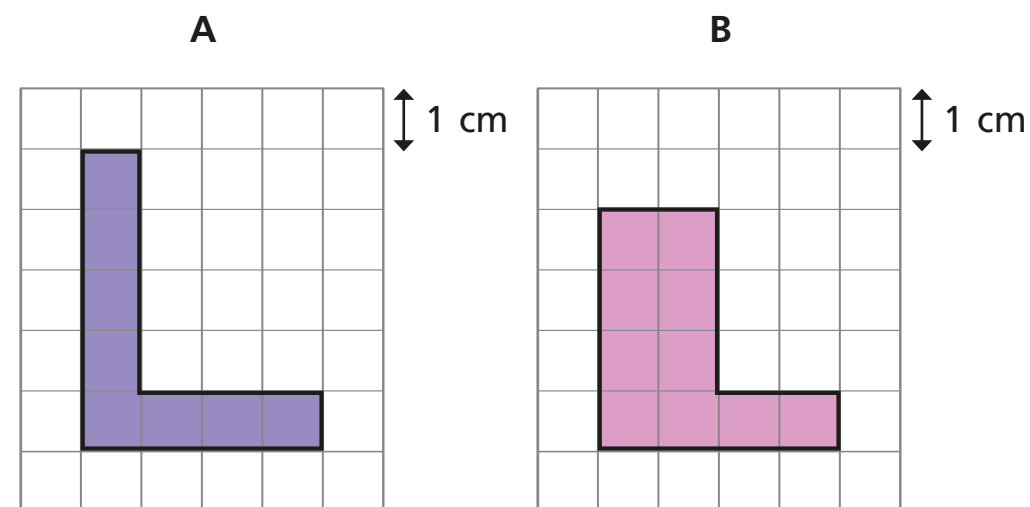


perimeter =



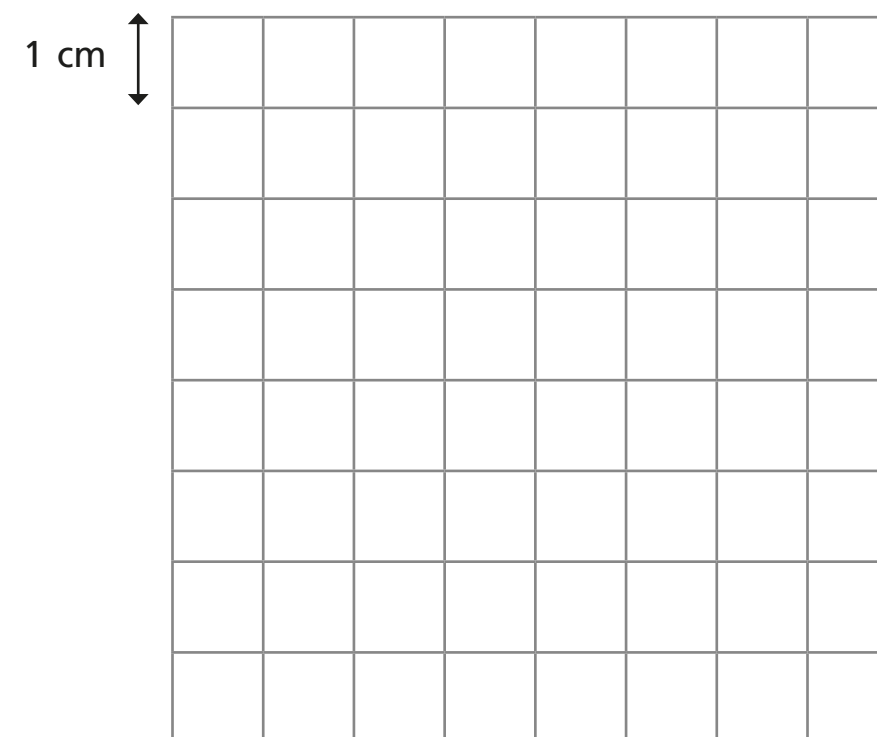
perimeter =

2 Which of the hexagons has the greatest perimeter?
Show all your workings.

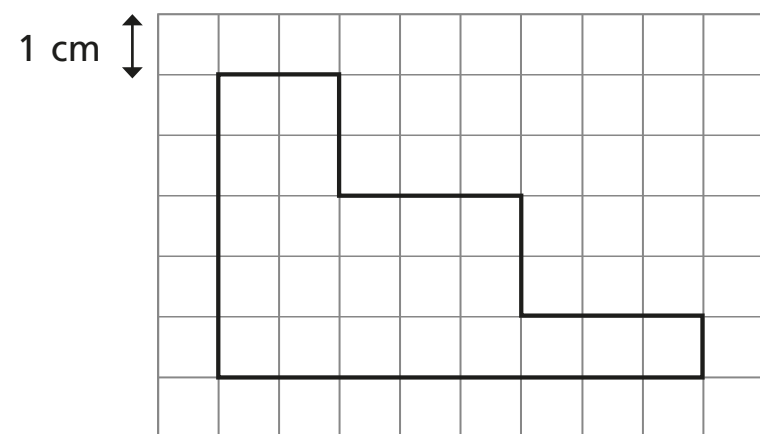


Shape ____ has the greatest perimeter.

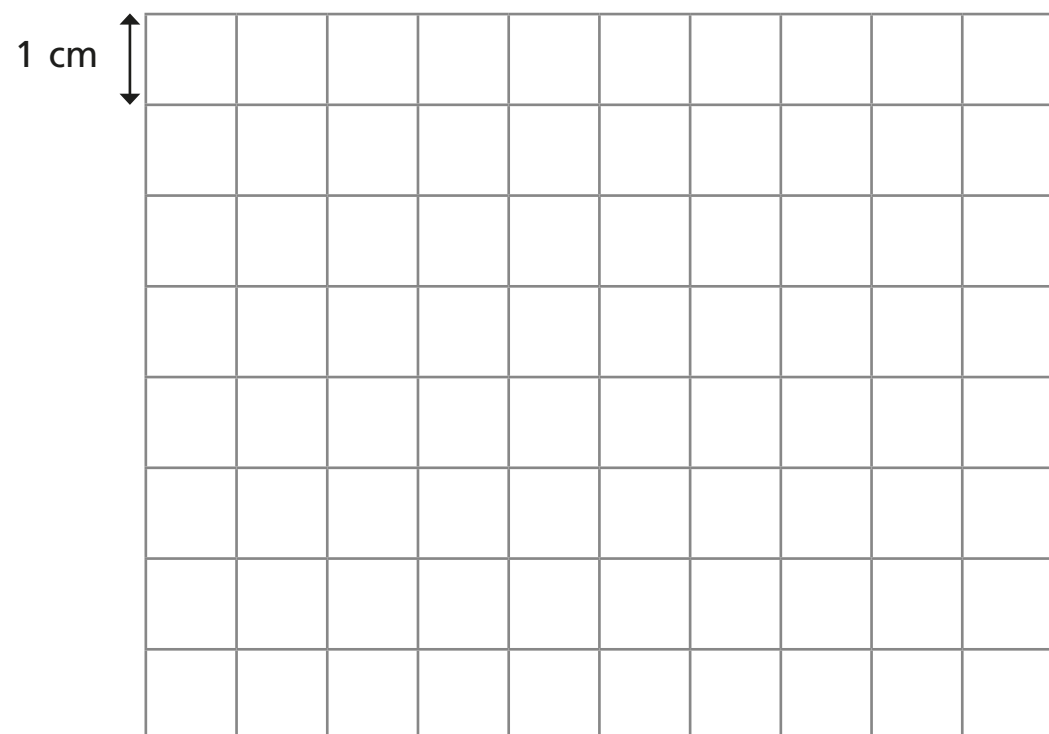
3 Draw two different rectangles with a perimeter of 14 cm.



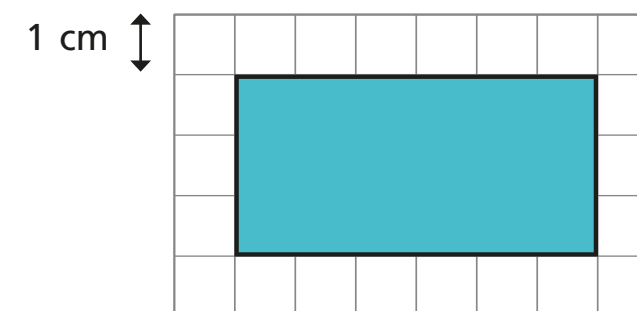
- 4 Work out the perimeter of the shape.



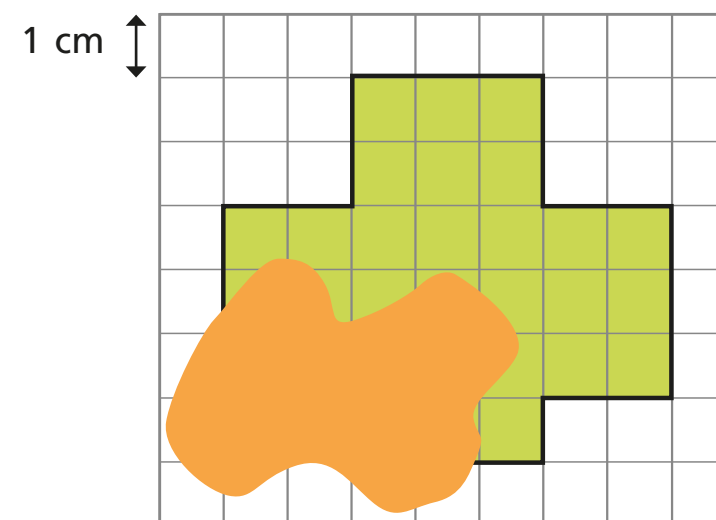
- 5 Draw two shapes with a perimeter of 20 cm.
Your shapes should **not** be rectangles.



- 6 Work out the perimeter of the rectangle.



- 7 A shape is drawn on a square grid.
Part of the shape is hidden.



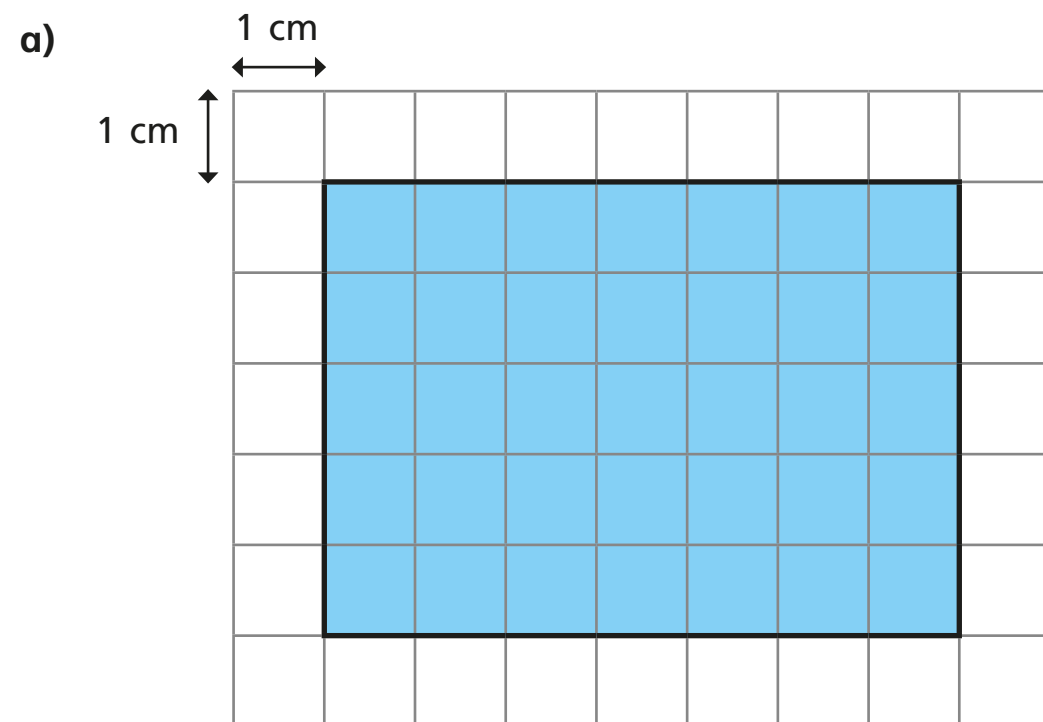
What could the perimeter of the shape be?

Is there more than one answer?

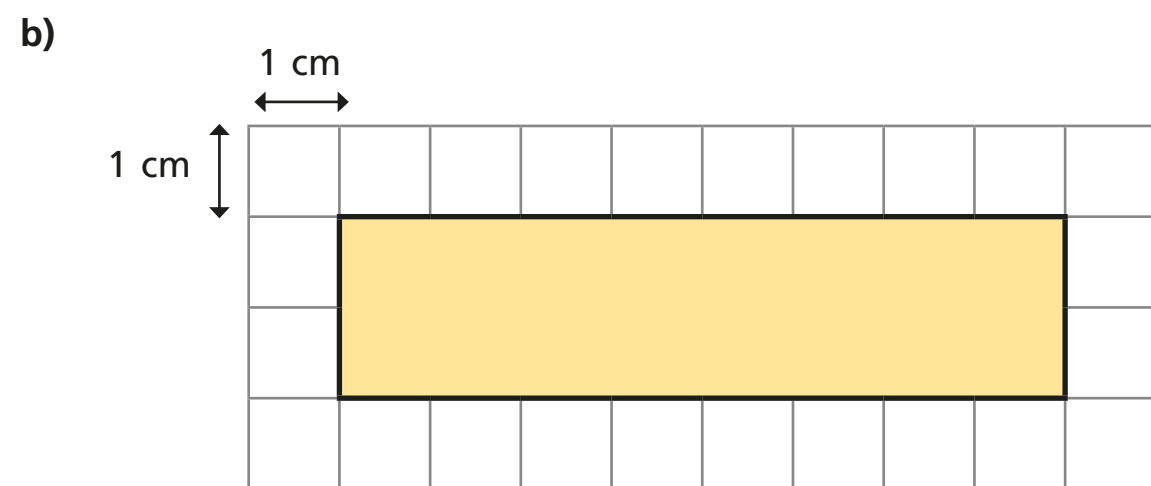


Perimeter of a rectangle

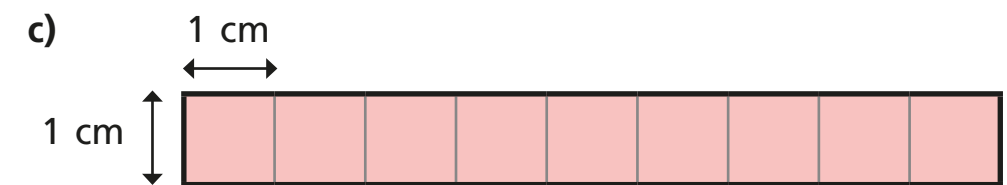
1 Work out the perimeter of each rectangle.



$$\square \text{ cm} + \square \text{ cm} + \square \text{ cm} + \square \text{ cm} = \square \text{ cm}$$

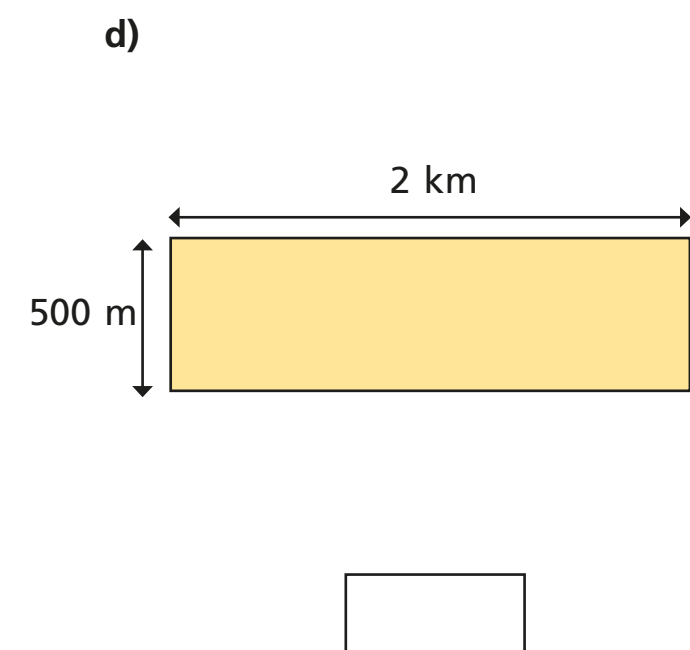
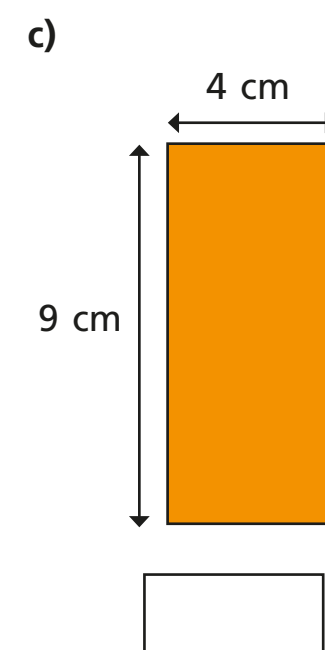
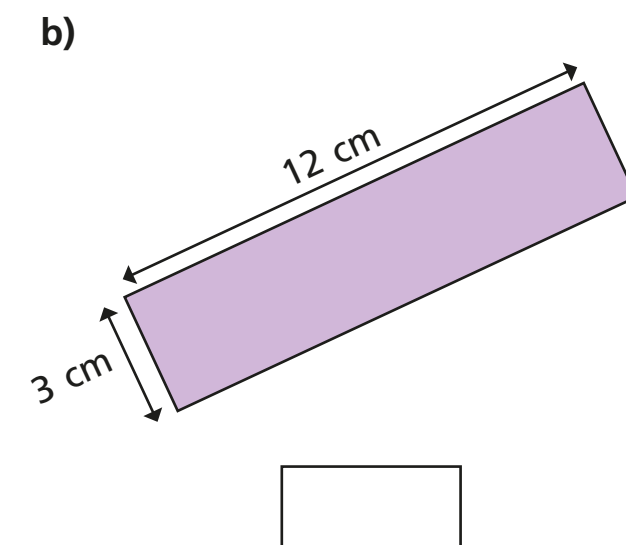
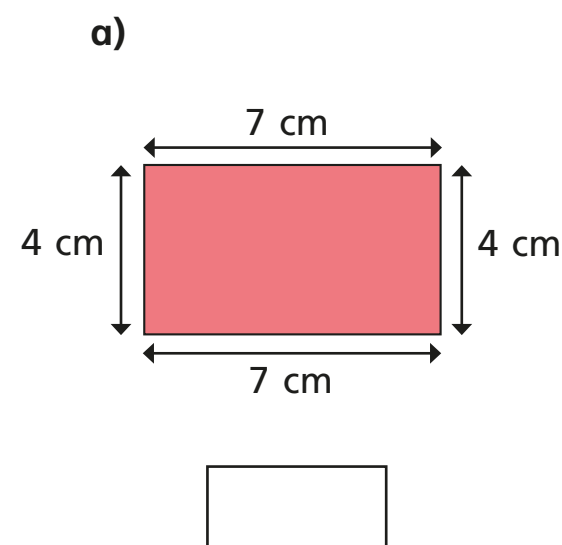


$$\square \text{ cm} + \square \text{ cm} + \square \text{ cm} + \square \text{ cm} = \square \text{ cm}$$

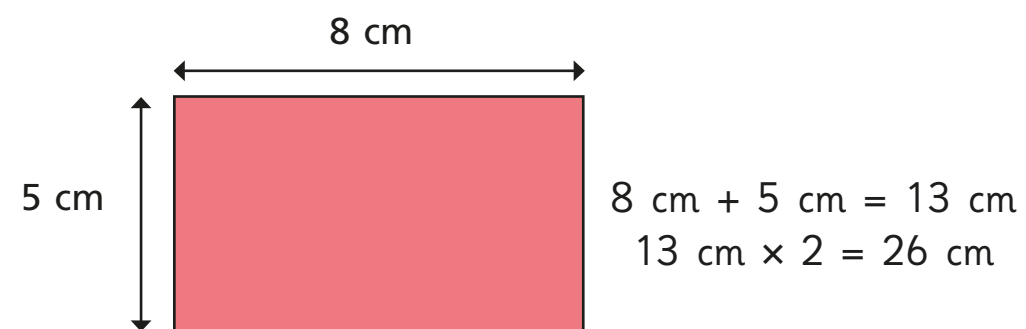


$$\square \text{ cm} + \square \text{ cm} + \square \text{ cm} + \square \text{ cm} = \square \text{ cm}$$

2 Work out the perimeter of the rectangles.

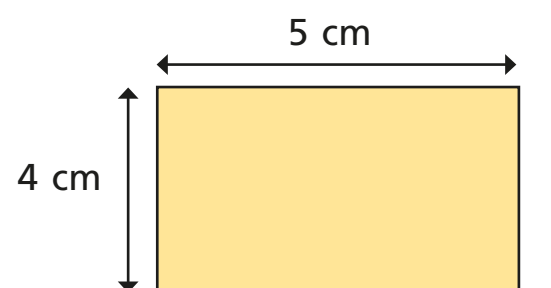


- 3 Tommy is working out the perimeter of some rectangles.



Use Tommy's method to find the perimeter of these rectangles.

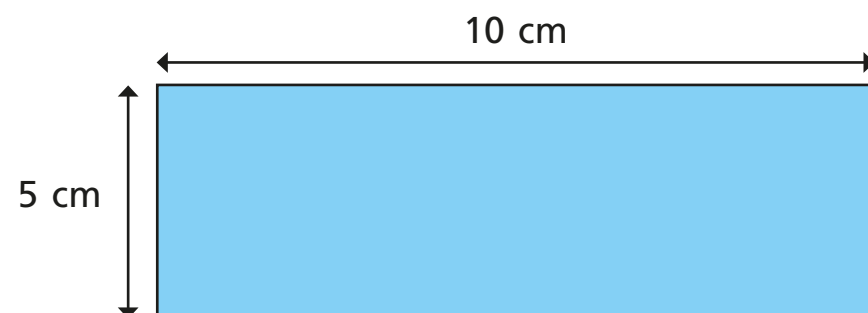
a)



cm + cm = cm

cm \times 2 = cm

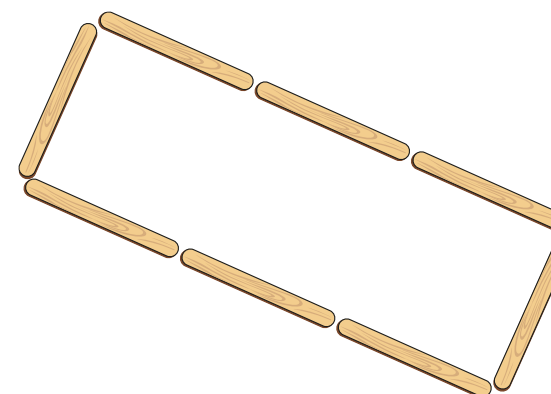
b)



cm + cm = cm

cm \times 2 = cm

- 4 Each lolly stick is 8 cm long.
Find the perimeter of the shape.



- 5 Each of these rectangles has a perimeter of 24 cm.
Work out the missing lengths and label the diagrams.

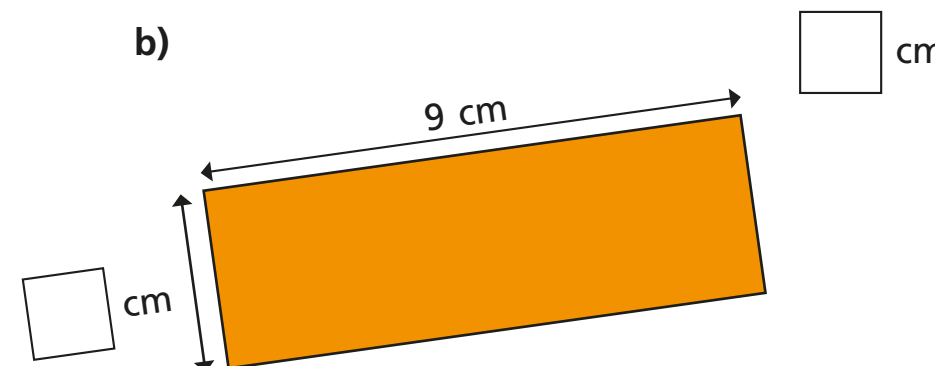
a)



c)



b)

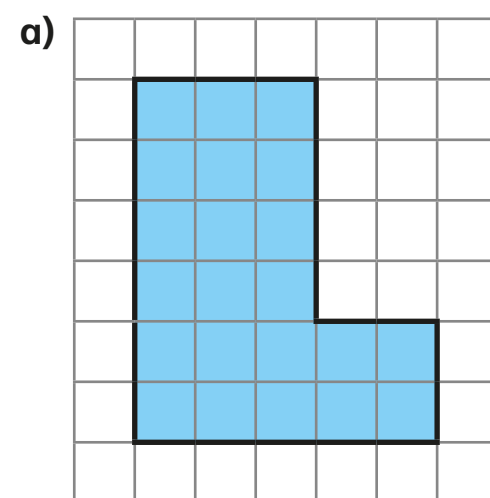


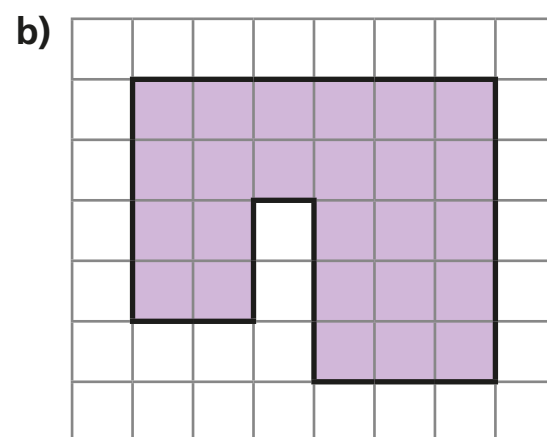
What do you notice?

Find any other rectangles that have the same perimeter.

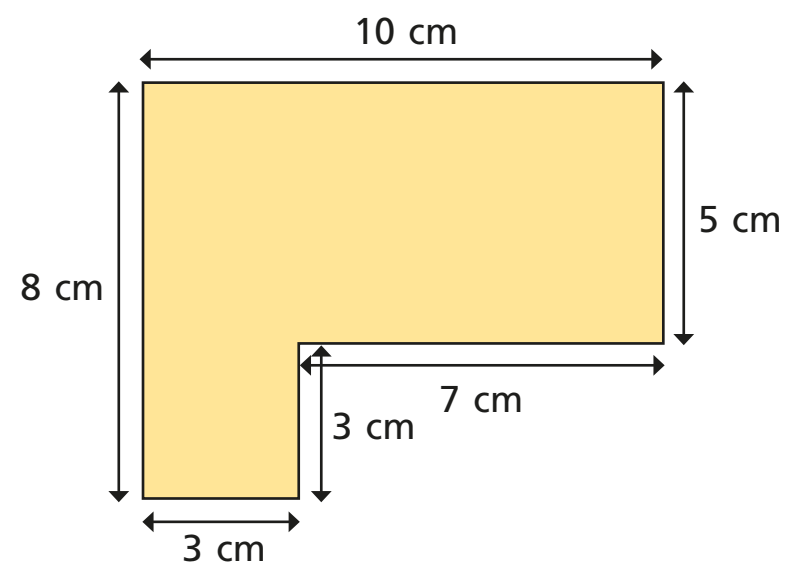
Perimeter of rectilinear shapes

- 1 The length of each square on the grid is 1 cm.
Work out the perimeter of the shapes.

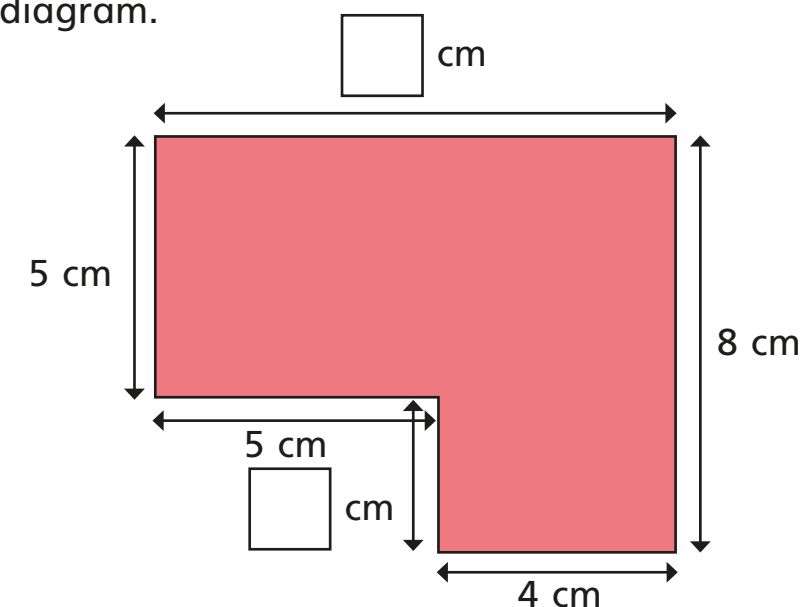




- 2 Work out the perimeter of the shape.

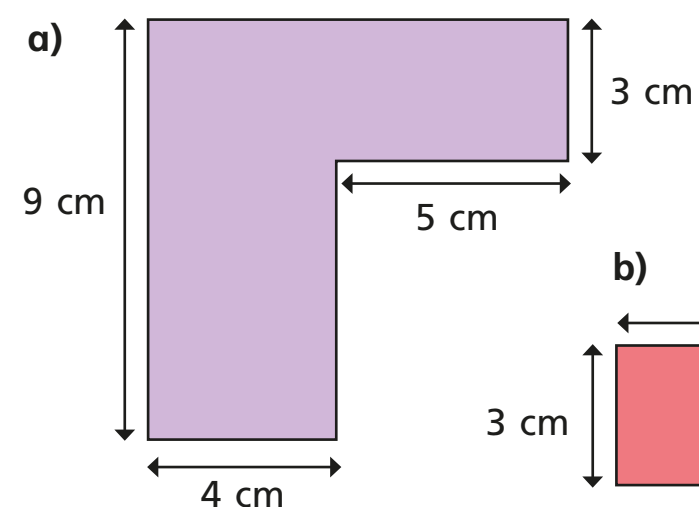


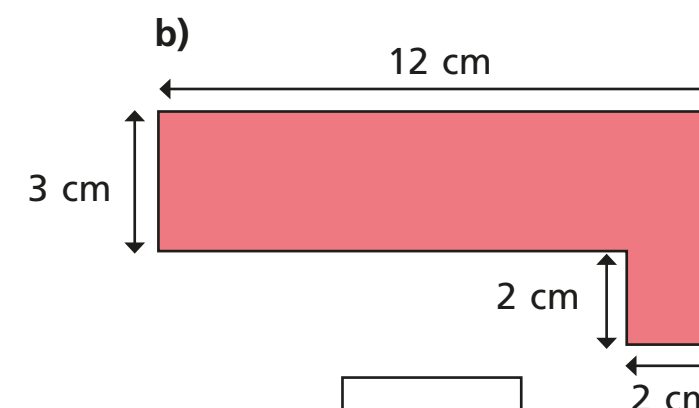
- 3 a) Work out the missing lengths and label them on the diagram.



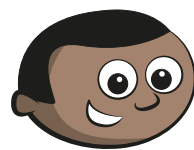
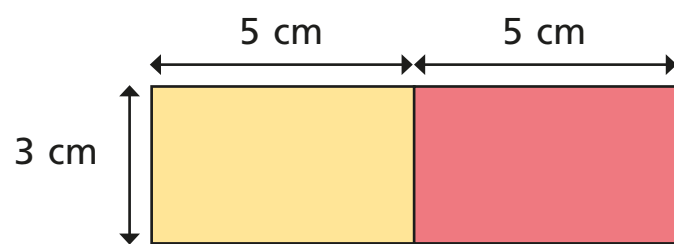
- b) What is the perimeter of the shape?

- 4 Work out the perimeter of each shape.





- 5 Mo puts two 5 cm by 3 cm rectangles next to each other.



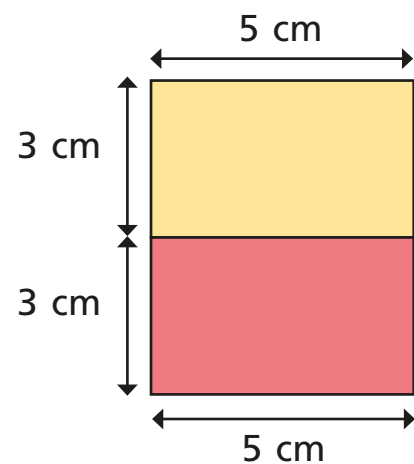
The perimeter of each small rectangle is 16 cm, so the perimeter of my larger rectangle must be $2 \times 16 \text{ cm} = 32 \text{ cm}$.

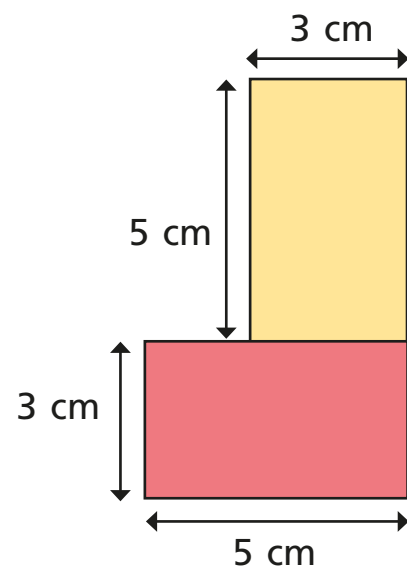
- a) Is Mo correct? _____

Work out the perimeter of the larger rectangle to check your answer.

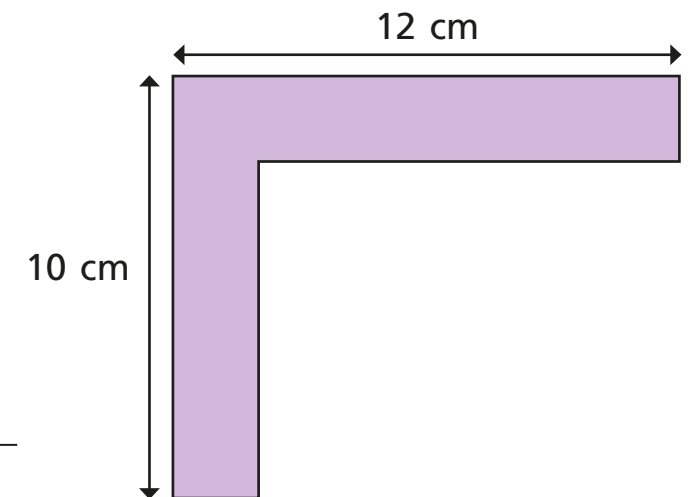
- b) Mo puts the rectangles together in different ways.

Work out the perimeter of each large shape.





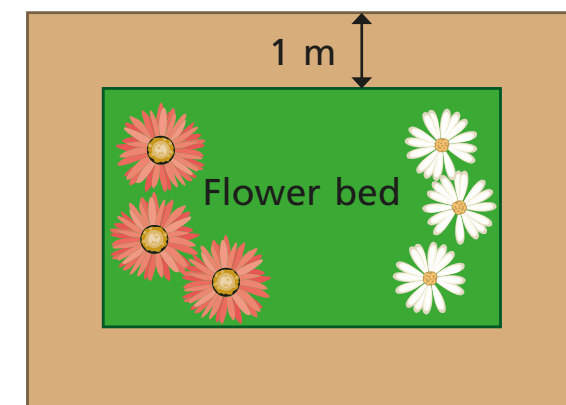
- 6 Dani thinks there isn't enough information to work out the perimeter of the shape.



Is Dani correct? _____

Explain your answer.

- 7 A rectangular flower bed is 5 m long and 3 m wide. The path around the flower bed is 1 m wide.



- a) What is the perimeter of the flower bed?

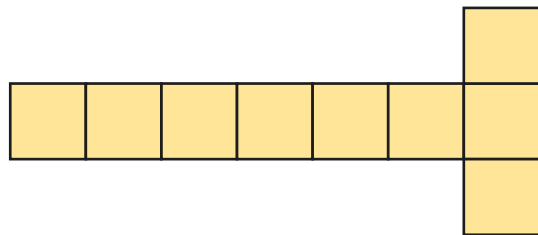
- b) What is the perimeter of the outside of the path?



Counting squares

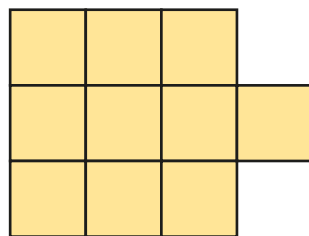
1 Count the squares in each shape to find the area.

A



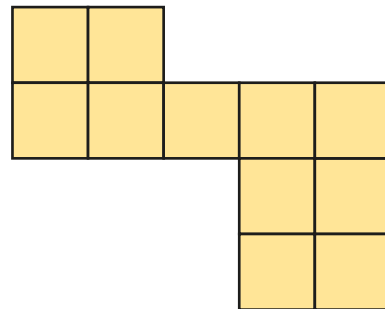
The area is squares.

B



The area is squares.

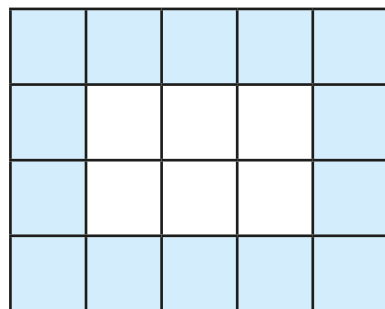
C



The area is squares.

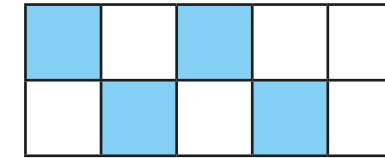
Which shape has the greatest area? _____

2 What is the area of the shaded part of the shape?



The area is squares.

3 Here is a kitchen tile.



a) What area of the tile is blue?

squares

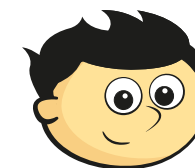
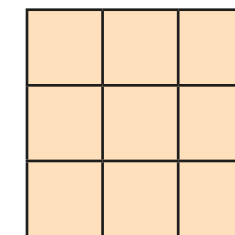
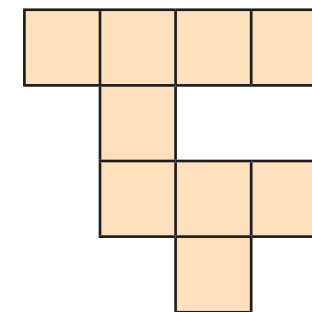
b) What area of the tile is white?

squares

c) What is the total area of the tile?

squares

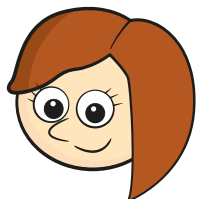
4 These two shapes are made up of squares of the same size.



Jack

These two shapes have the same area.

Rosie

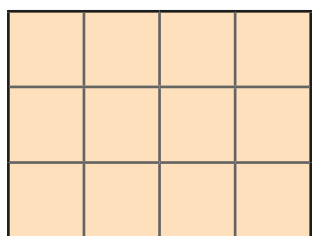


The first shape is bigger as it takes up more space.

Who is correct? _____

Explain how you know.

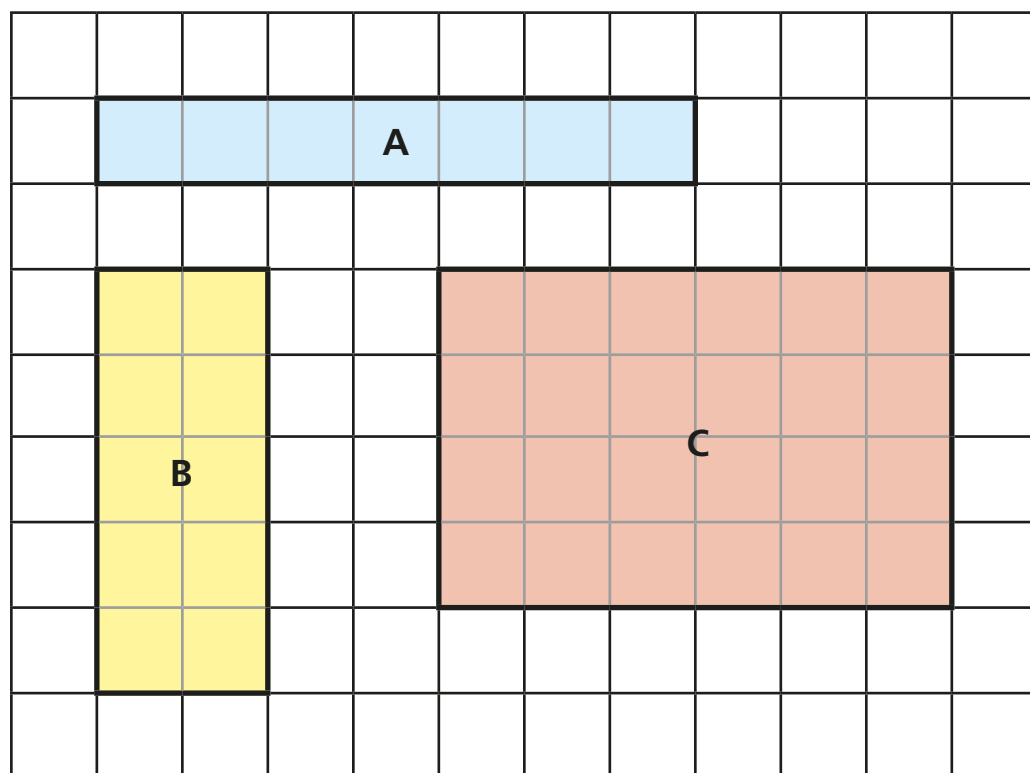
5 Here is a rectangle.



- a) The rectangle has rows and columns.
- b) What is the area of the rectangle? squares
- c) How did you work out the area?



6 Find the area of each rectangle.

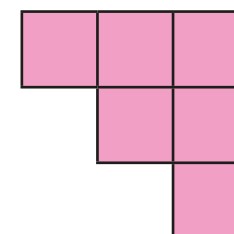


A = squares B = squares C = squares

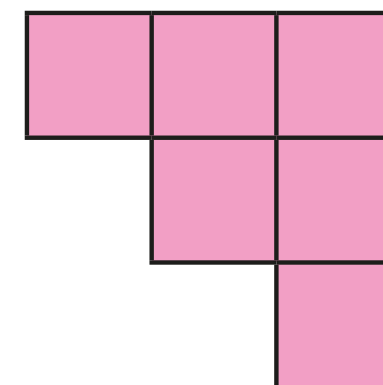
7 Nijah and Eva are making shapes.

They each use 6 squares.

Nijah's shape



Eva's shape

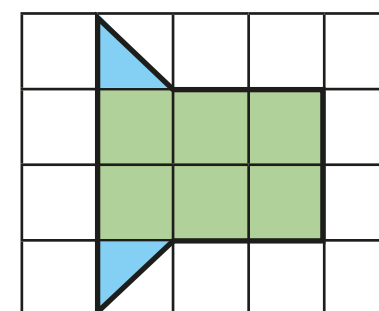


The area of Nijah's shape is equal to the area of Eva's shape.

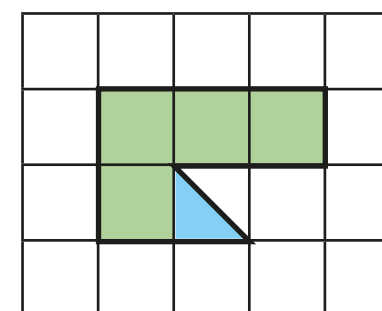
Is this true or false? _____

How do you know?

8 What is the area of each shape?



area = squares

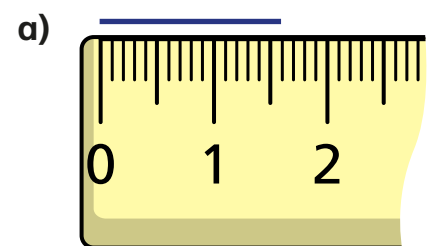


area = squares

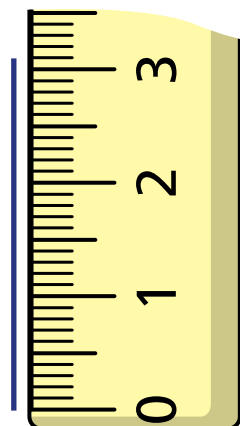


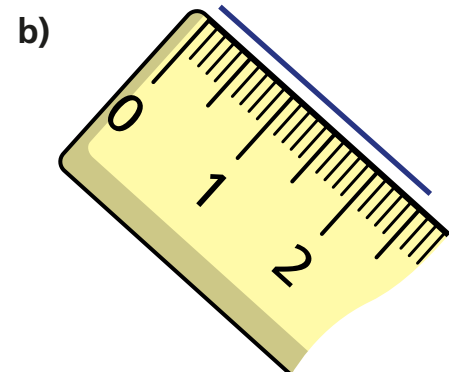
Measure perimeter

1 What is the length of each line?

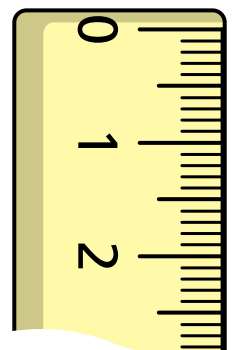


c)

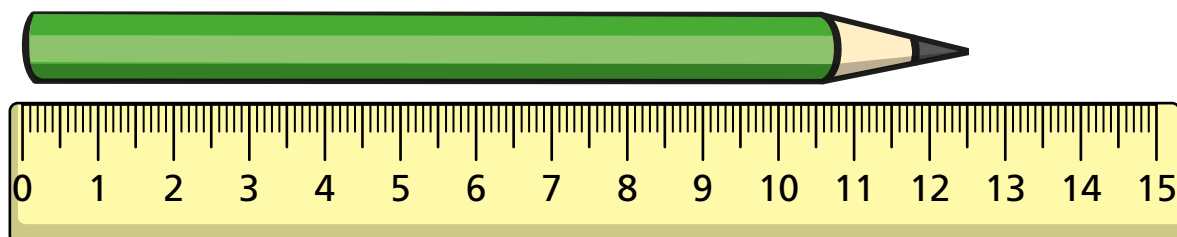




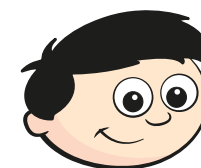
d)



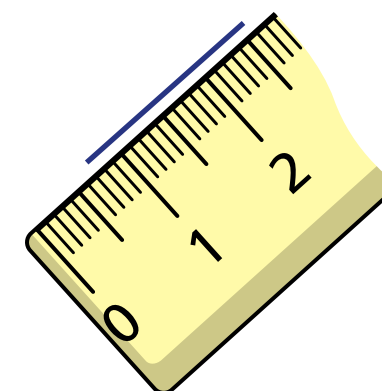
2 How long is the pencil?



3 Dexter is measuring the length of a line.



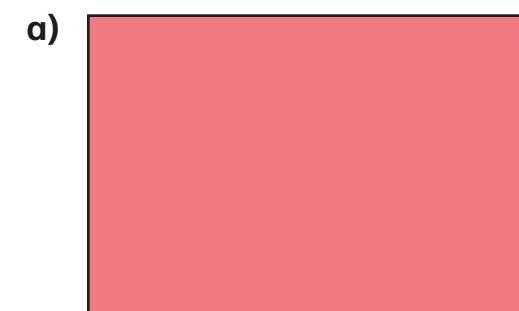
I think
that the line is
2.6 cm long.

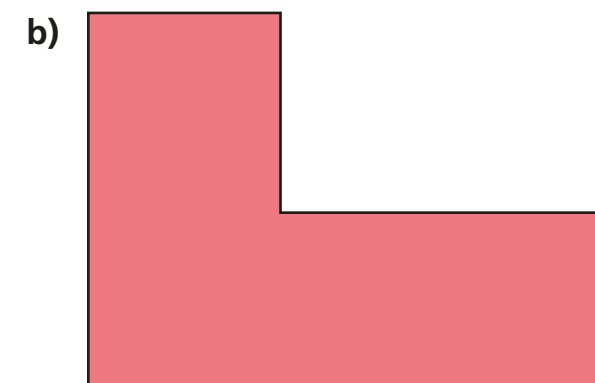


Do you agree with Dexter? _____

Explain why.

4 Measure the sides of the shape to work out the perimeter.

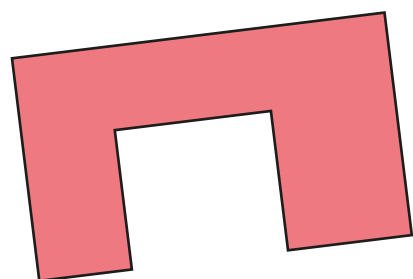




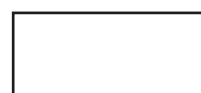
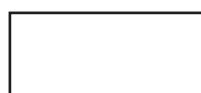
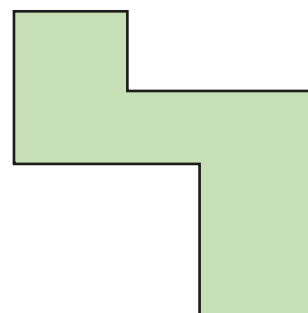
How many sides did you have to measure for each shape?

5 By measuring, work out the perimeter of these shapes.

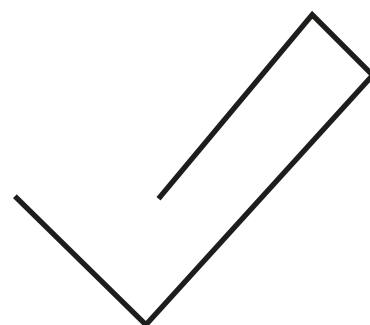
a)



b)



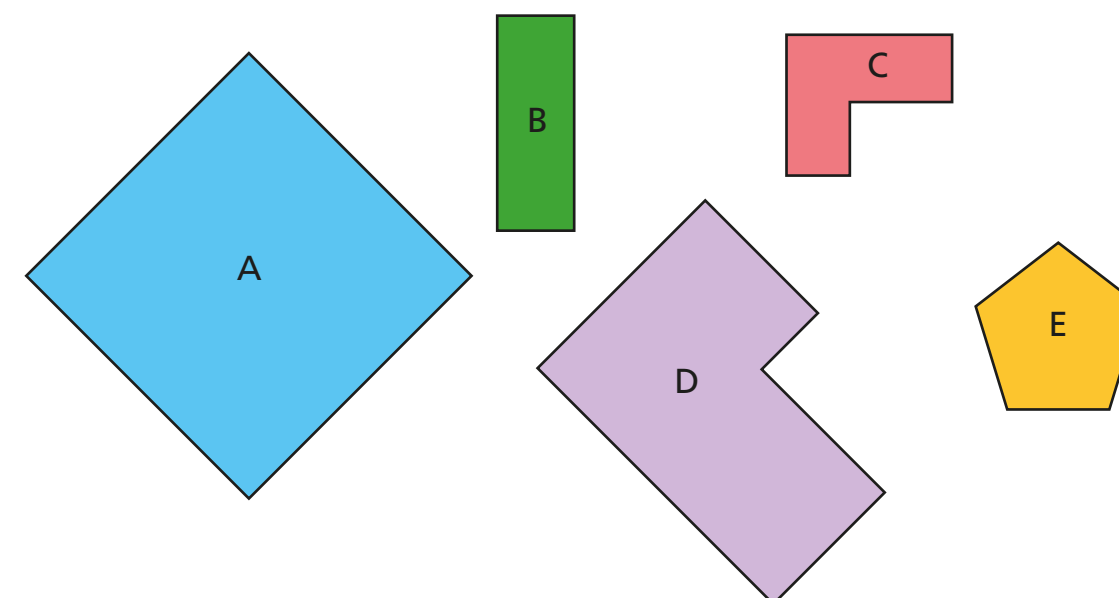
6 Complete the shape so that it has a perimeter of 15.6 cm.



7 Draw a quadrilateral and pentagon with a perimeter of 10 cm.



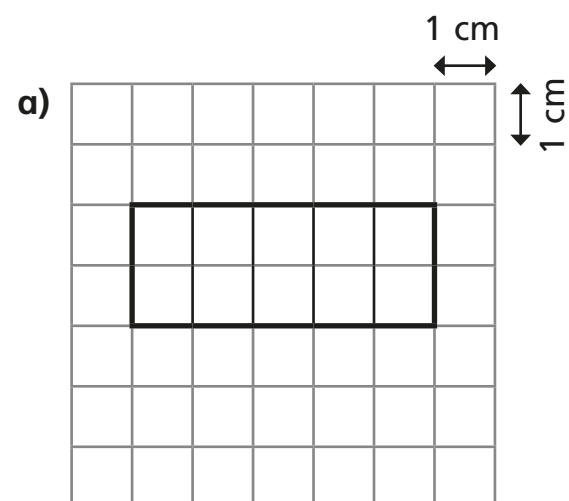
8 Sort the shapes into the correct categories.

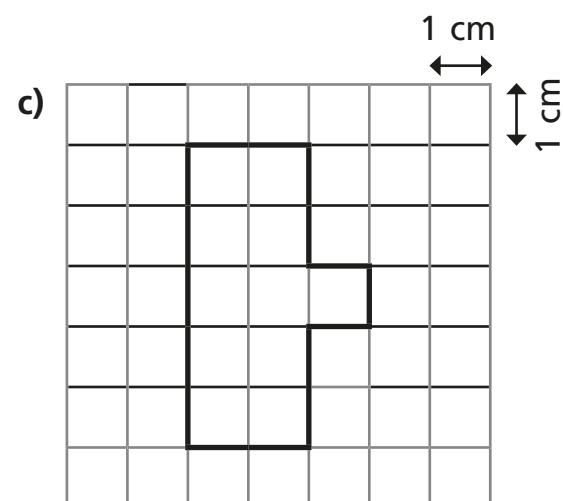


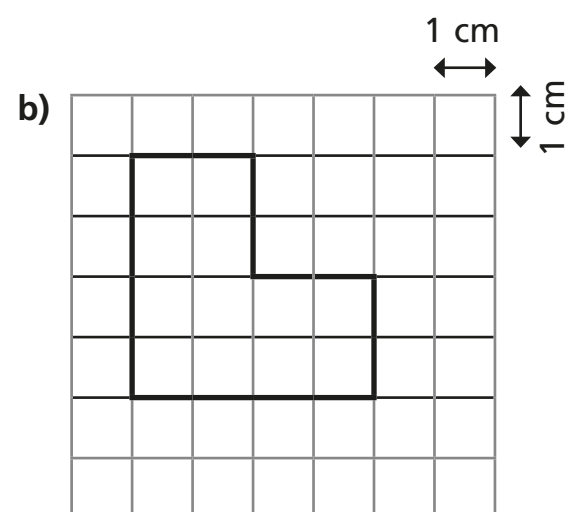
	Regular	Irregular
Perimeter less than 10 cm		
Perimeter greater than 10 cm		

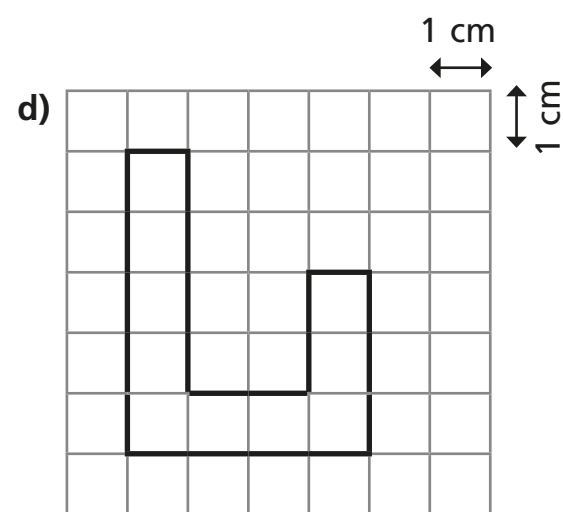
Calculate perimeter

1 Calculate the perimeter of each shape.

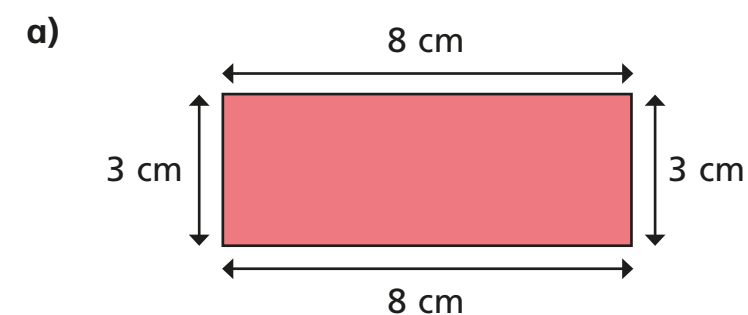


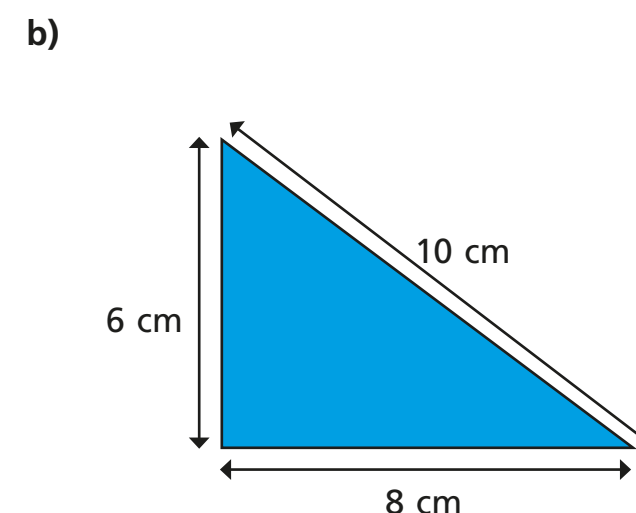




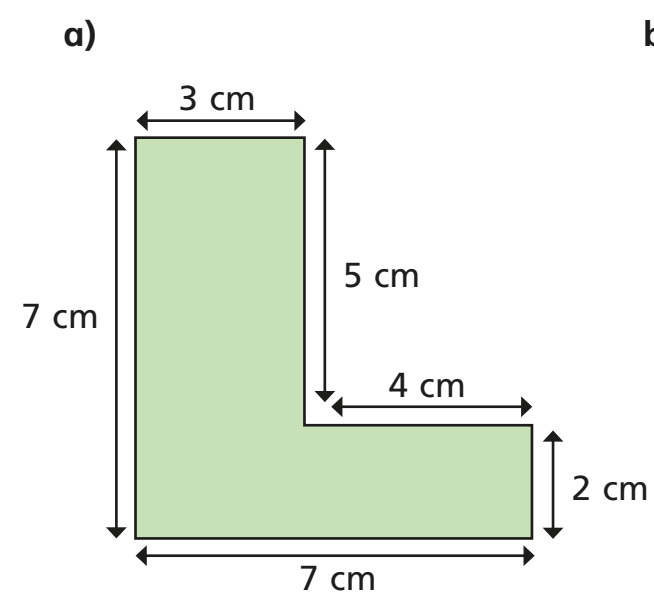


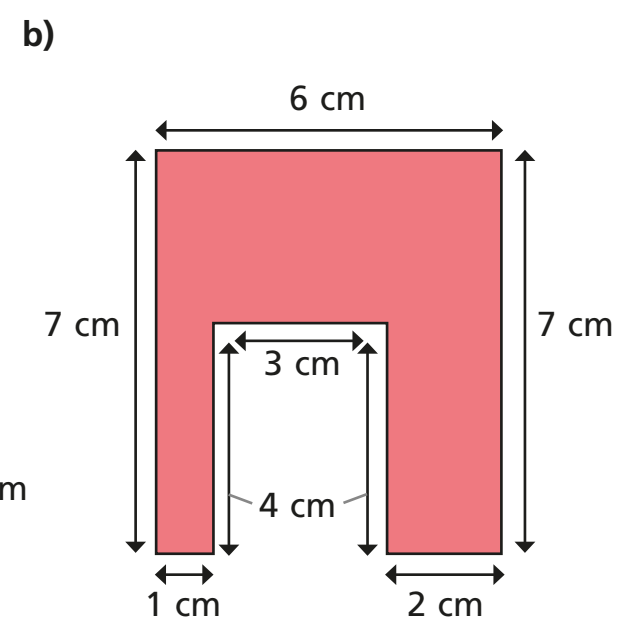
2 Calculate the perimeter of these shapes.



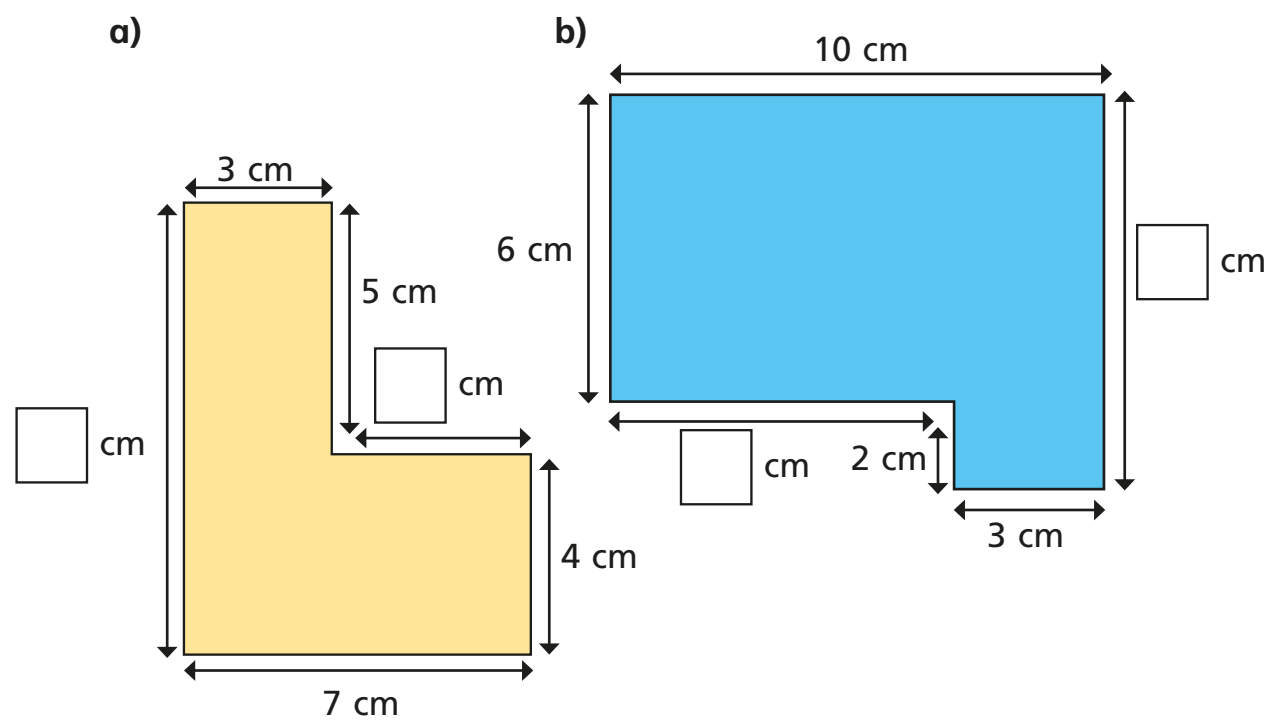


3 Calculate the perimeter of these shapes.



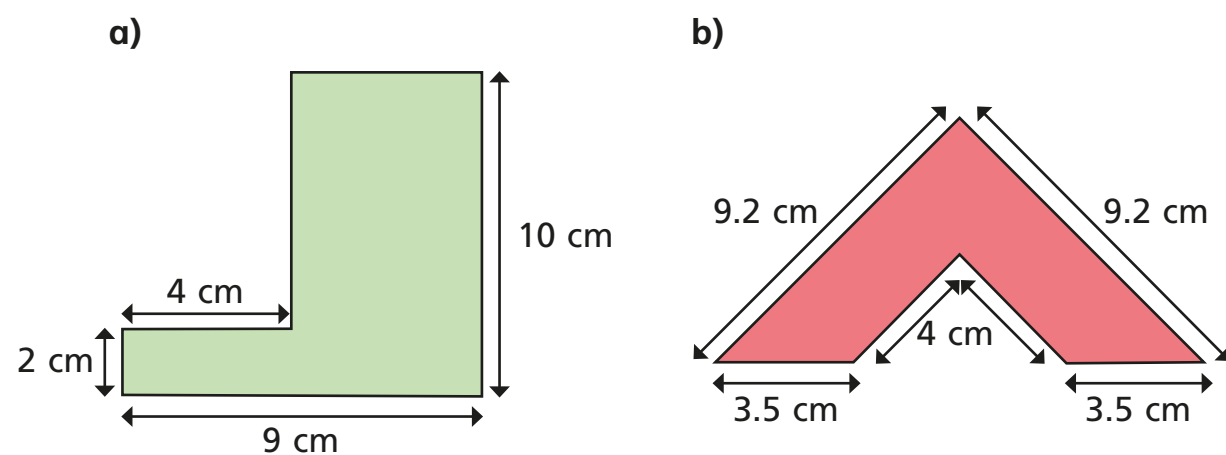


- 4 Work out the missing lengths on these shapes.



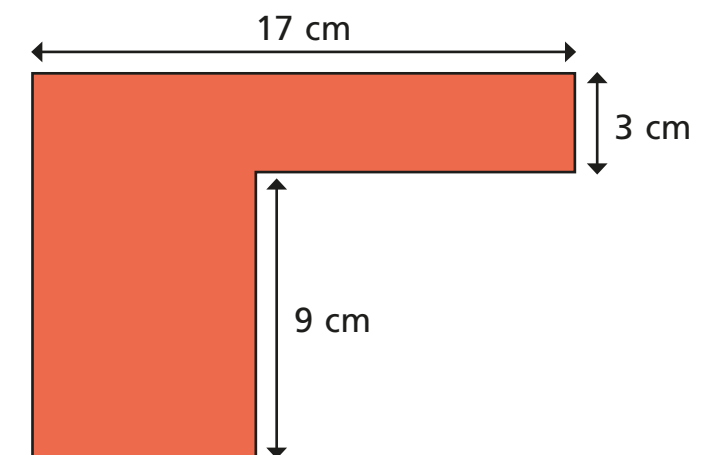
Discuss with a partner how you worked them out.

- 5 Calculate the perimeter of these shapes.

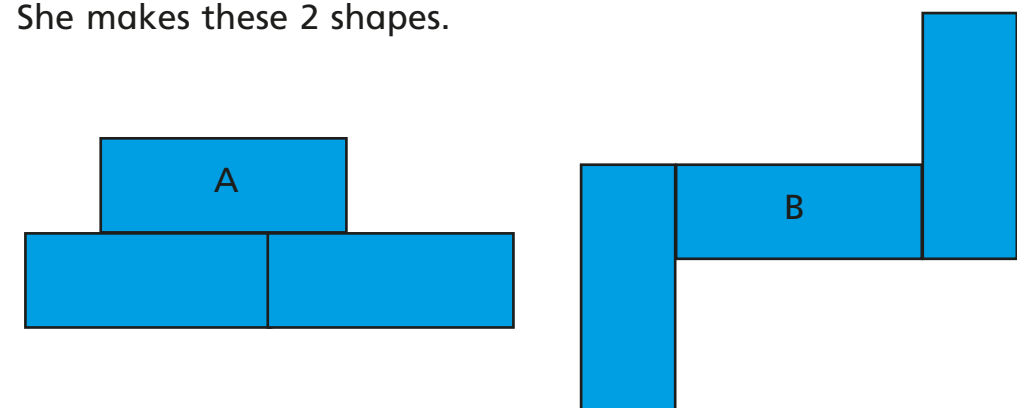


- 6 Mo thinks that there is not enough information to calculate the perimeter of the shape.

Is he correct? How do you know?



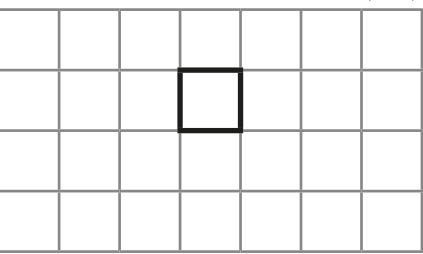

- 7 Rosie is making shapes made up of 3 rectangles. Each rectangle has a length of 10 cm and a width of 4 cm. She makes these 2 shapes.

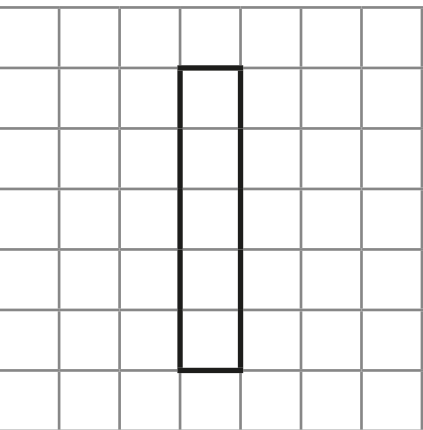



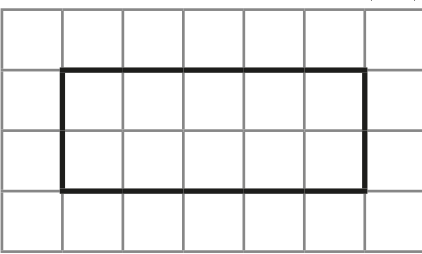

- a) Which shape has the greatest perimeter? _____
- b) What other shapes can you make with 3 rectangles?
What is the perimeter of the shapes?

Area of rectangles

- 1 On the grid, the area of each square is 1 cm^2
Calculate the area of each rectangle.

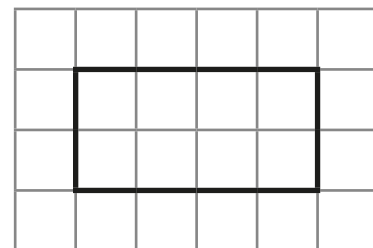
a)  

b)  

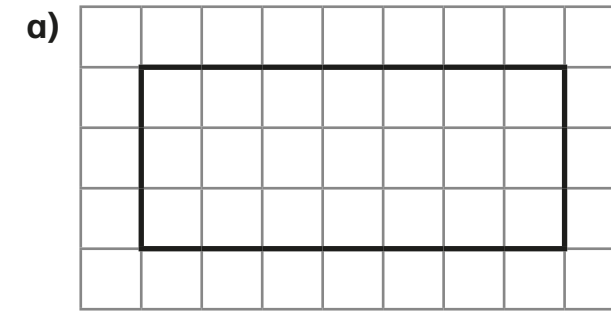
c)  

- 2 Complete the sentences to describe the rectangle.

There are rows.
Each row has squares.
There are squares altogether.
 \times =

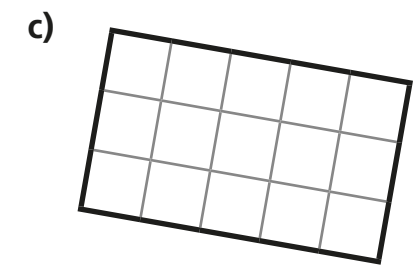


- 3 The area of each square is 1 cm^2
Work out the area of each rectangle.



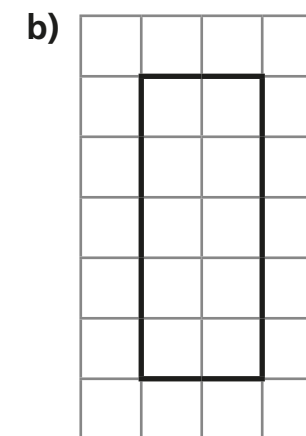
$$\boxed{} \times \boxed{} = \boxed{}$$

area =



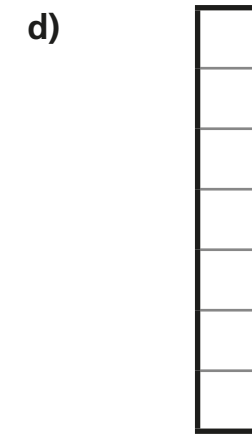
$$\boxed{} \times \boxed{} = \boxed{}$$

area =



$$\boxed{} \times \boxed{} = \boxed{}$$

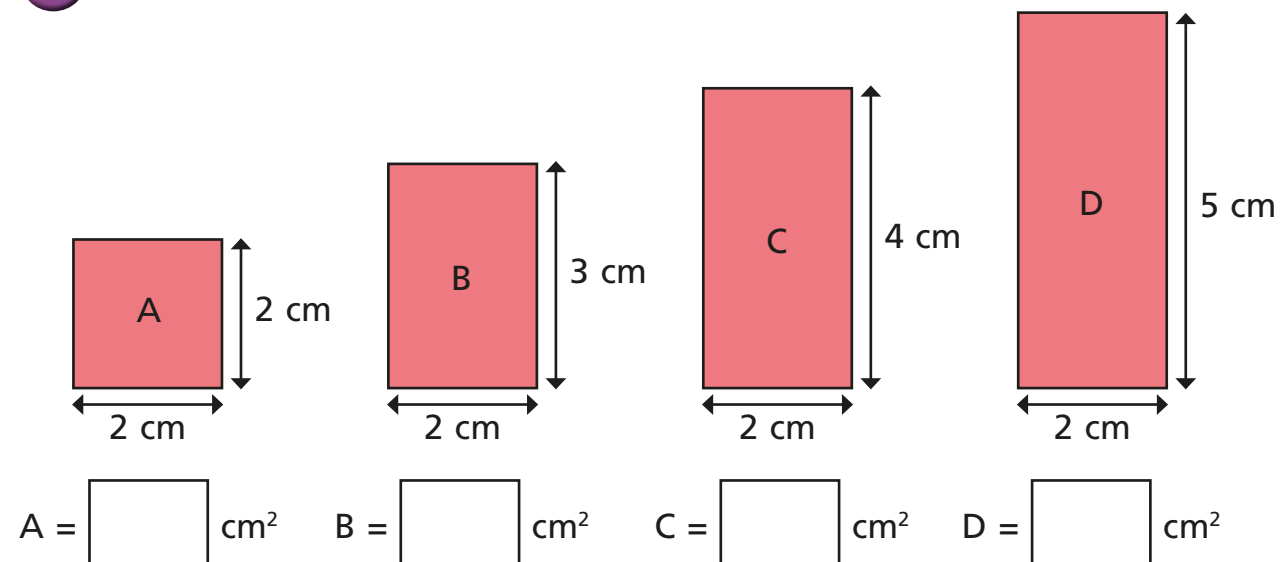
area =



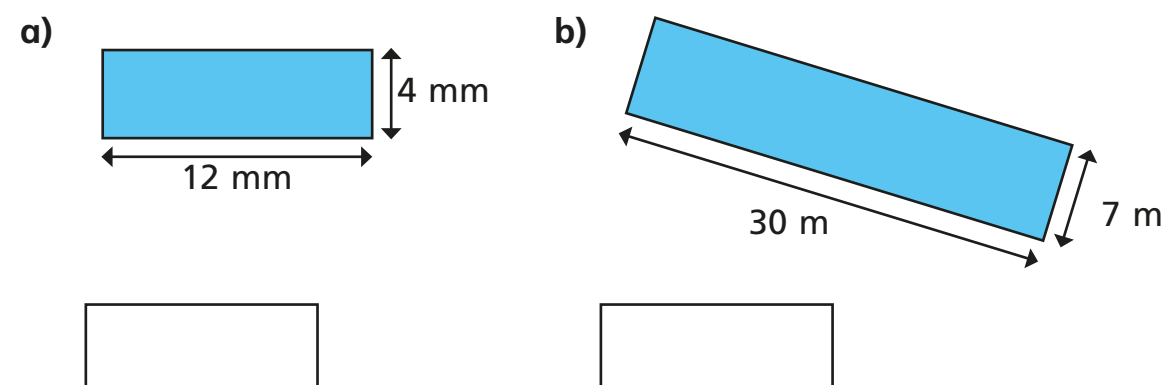
$$\boxed{} \times \boxed{} = \boxed{}$$

area =

- 4 Calculate the area of the rectangles.



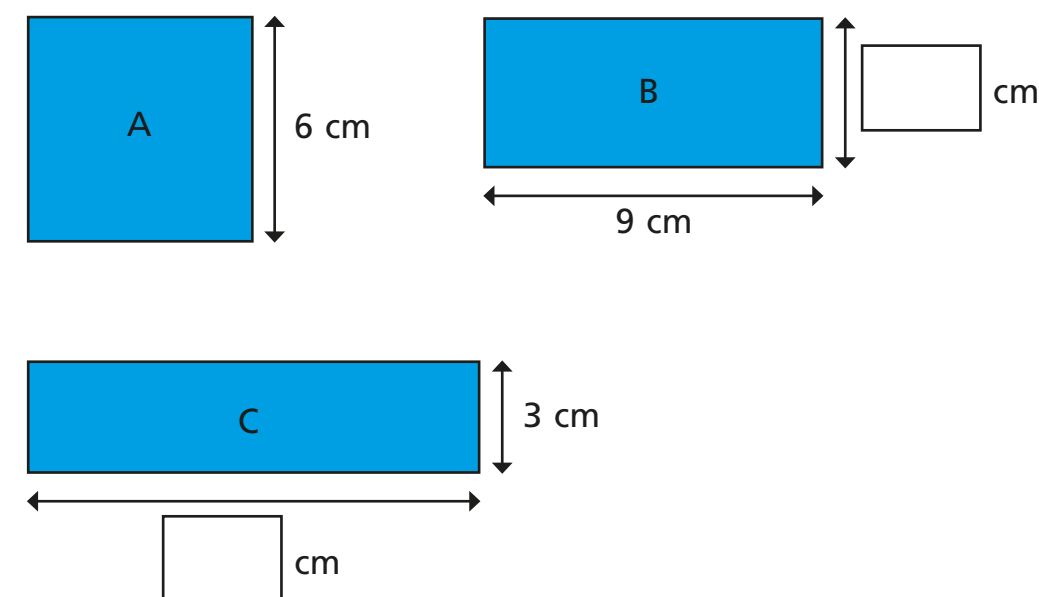
- 5 Work out the area of these rectangles.



- 6 How many rectangles can you draw that have an area of 24 cm²? Label the lengths. Your drawings do not have to be exact.

Compare your answers with a partner.

- 7 These shapes all have the same area. Shape A is a square. Work out the missing lengths.



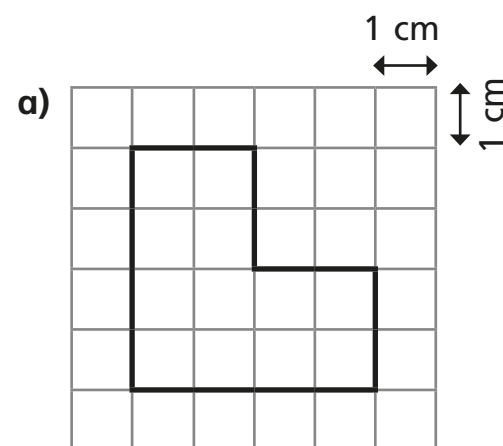
- 8 A rectangle has an area of 96 cm². The length of the rectangle is 4 cm longer than the width. Work out the length and width of the rectangle.

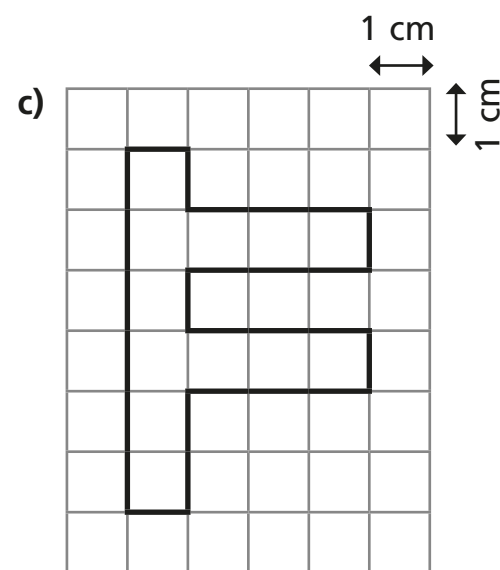
length = width =

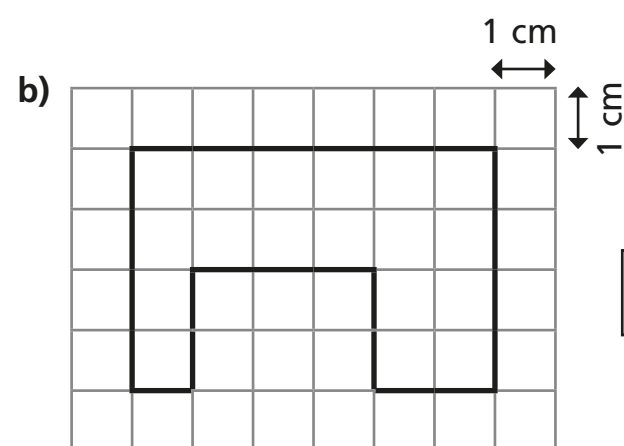


Area of compound shapes

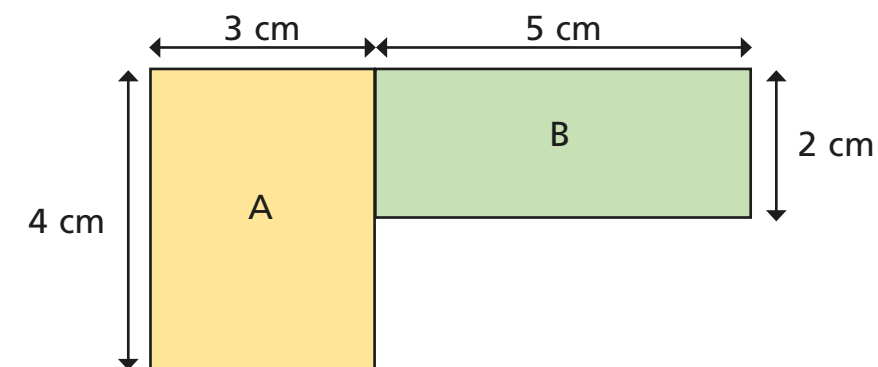
- 1 On the grid, the area of each square is 1 cm^2
Calculate the area of each shape.







2



- a) Work out the area of rectangle A

area =

- b) Work out the area of rectangle B

area =

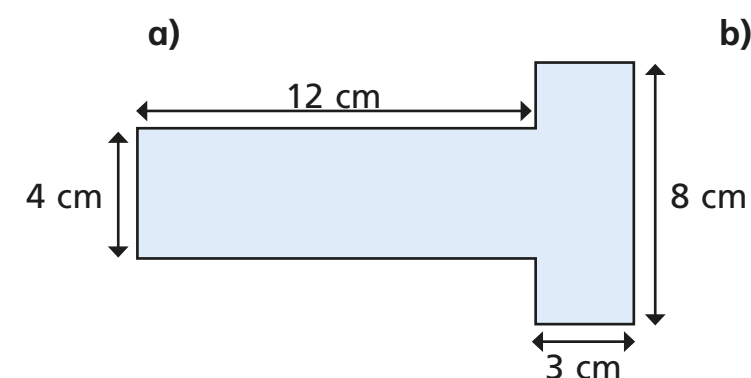
- c) Work out the area of the compound shape.

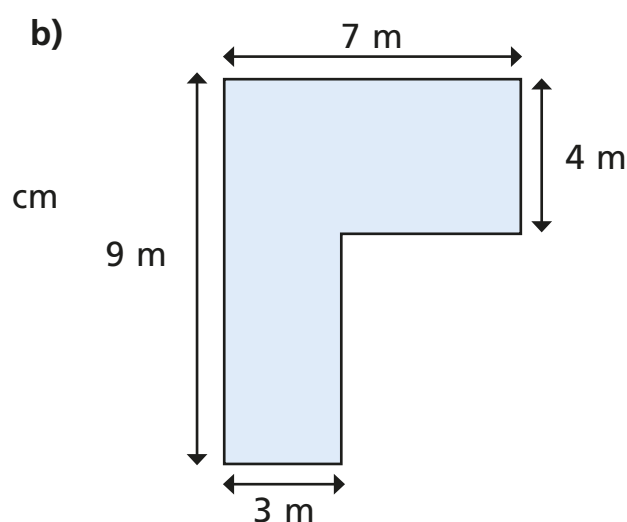
area =

Talk about it with your partner.

3

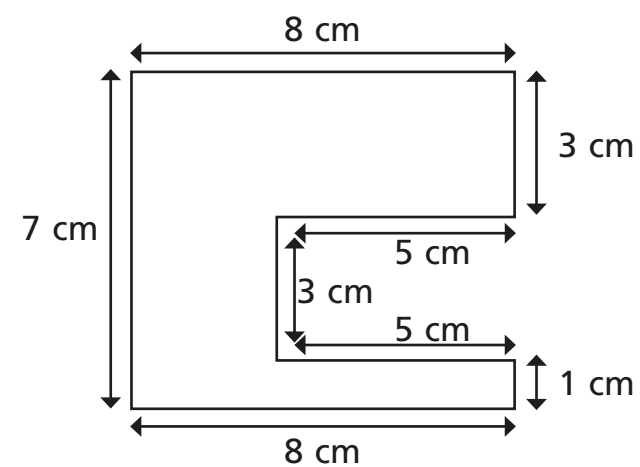
- Work out the area of each of the following shapes.
Show all your working.



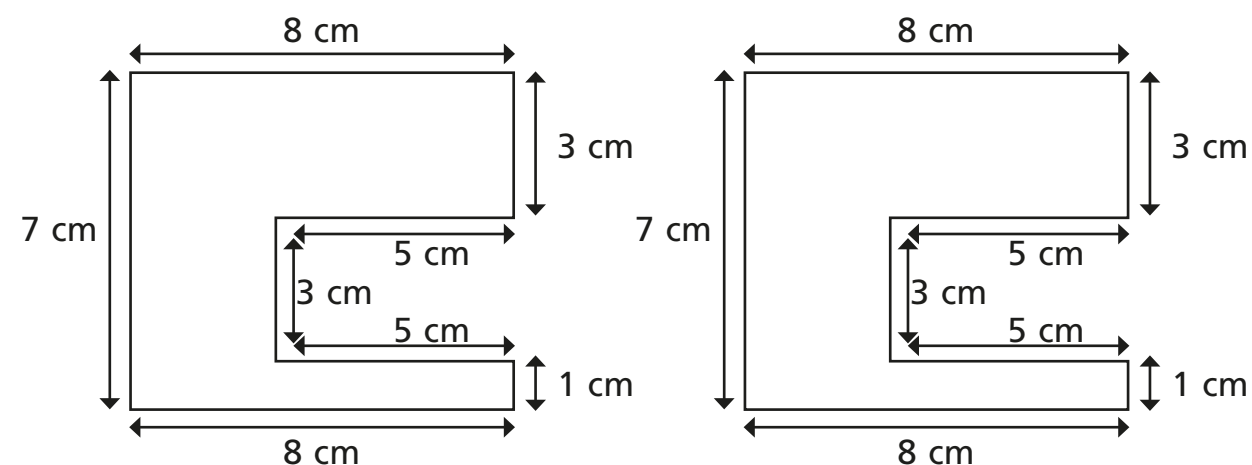


4 Calculate the area of the compound shapes.

a) Mark on the shape how you partitioned it.



b) Show how you can partition the shape in two other ways.



c) Alex has calculated the area of the same shape below.

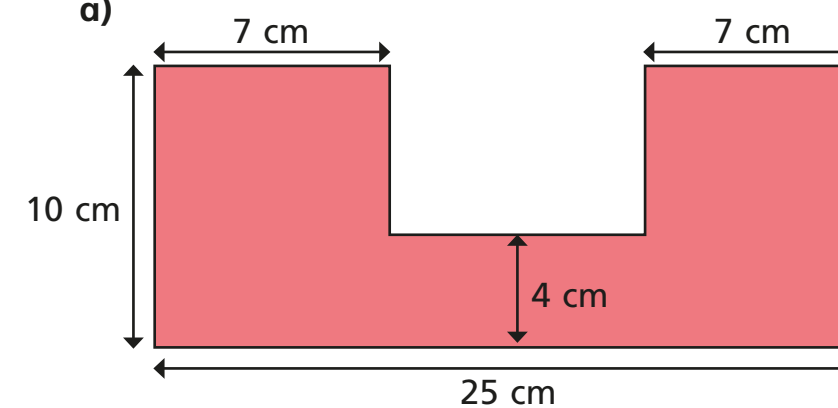
$$\begin{aligned} 8 \times 7 &= 56 \\ 5 \times 3 &= 15 \\ 56 - 15 &= 41 \text{ cm}^2 \end{aligned}$$

Explain the method Alex has used.

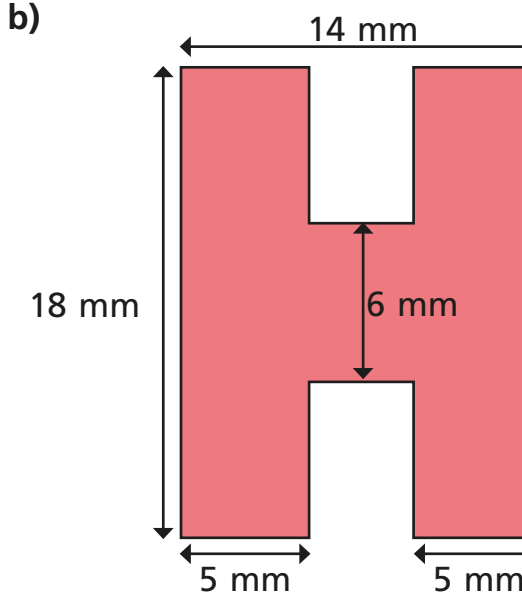


5 Calculate the area of these compound shapes.

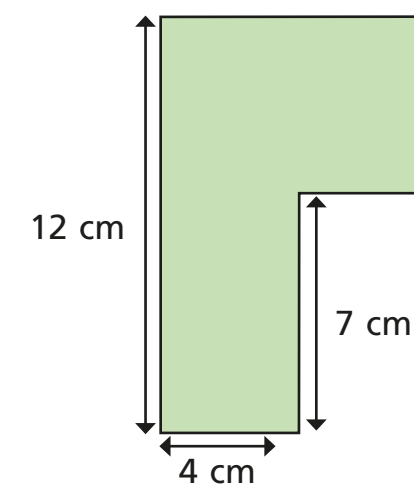
a)



b)



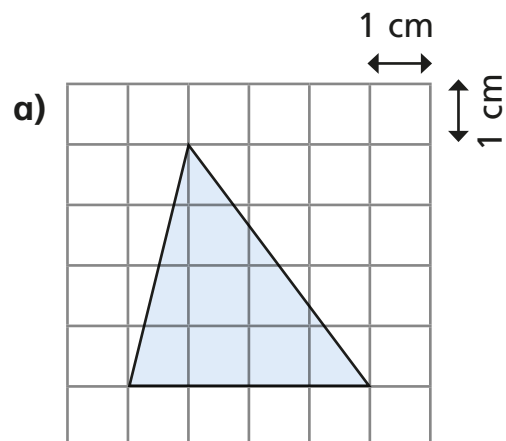
6 The area of this shape is 83 cm^2
Work out the perimeter of the shape.

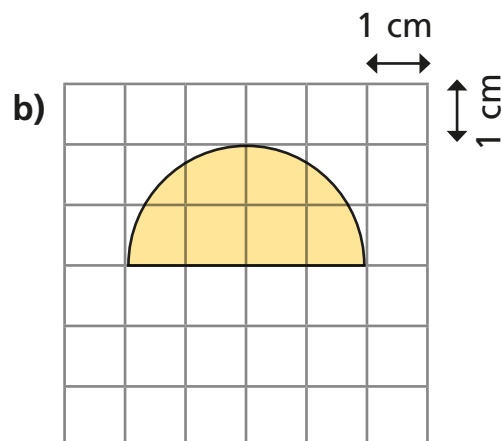




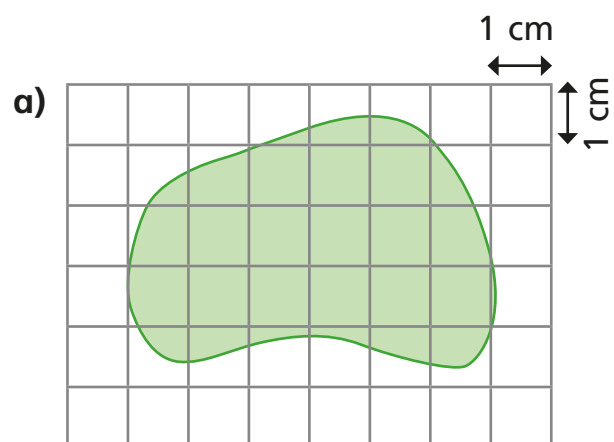
Area of irregular shapes

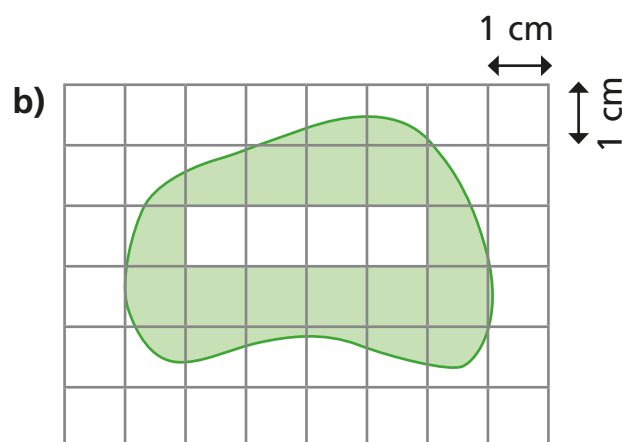
- 1 On the grid, the area of each square is 1 cm^2
Estimate the area of each shape.





- 2 Mo draws two shapes on a cm^2 grid.
Estimate the area of each shape.

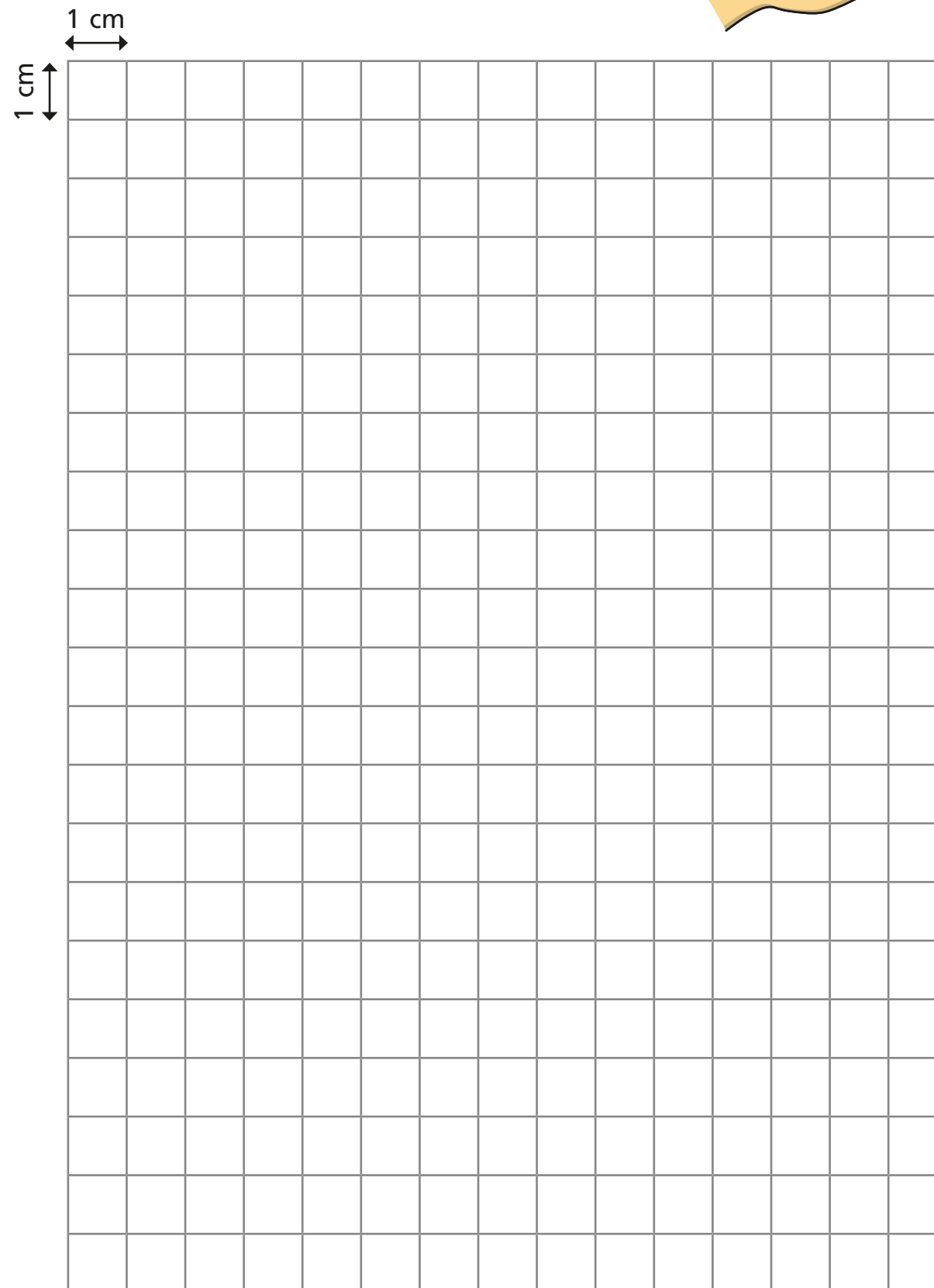




How did you estimate the area of b)?
Talk about it with your partner.

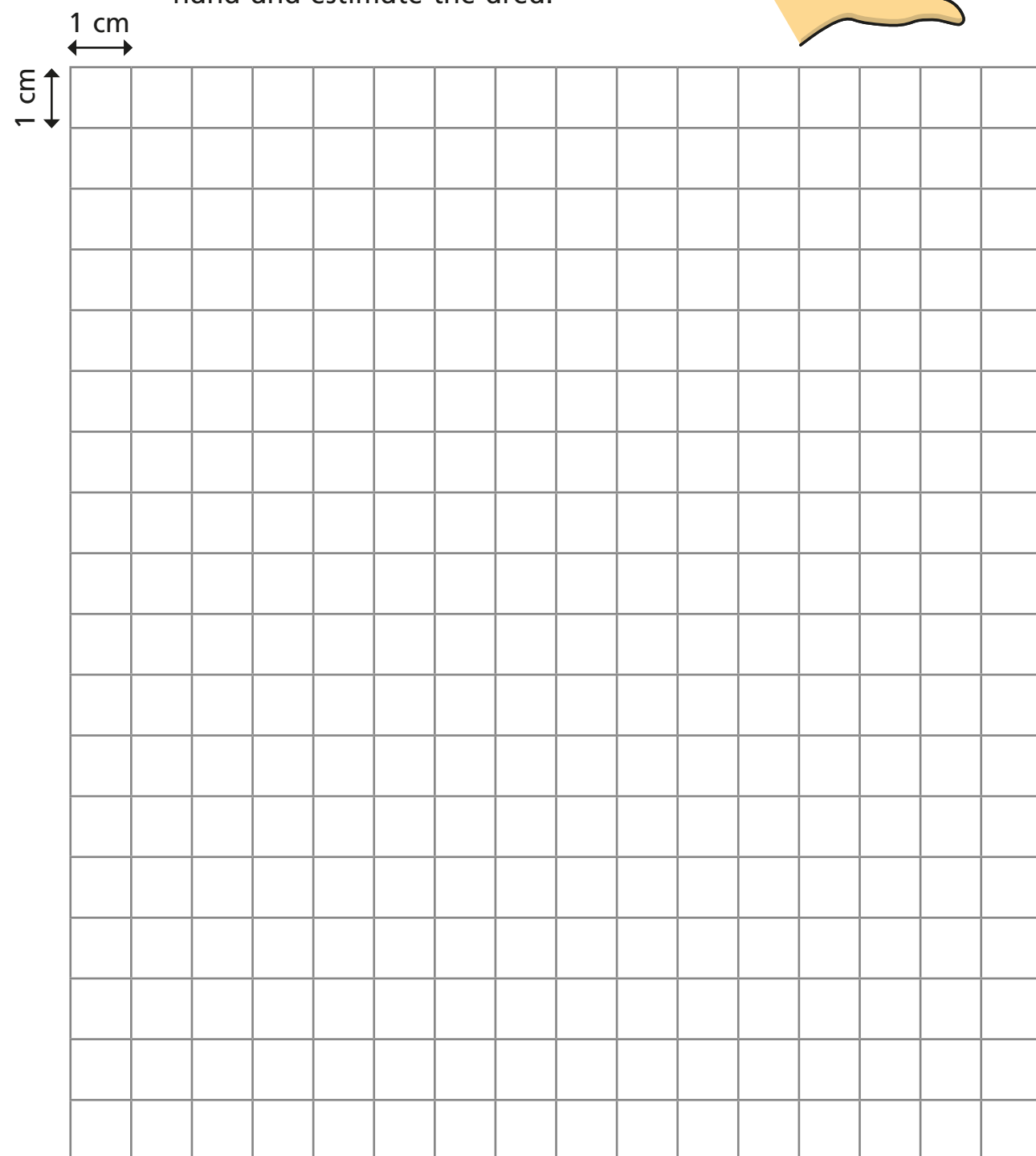


- 3 a) On the grid below, draw around your closed hand and estimate the area.





b) On the grid below, draw around your open hand and estimate the area.



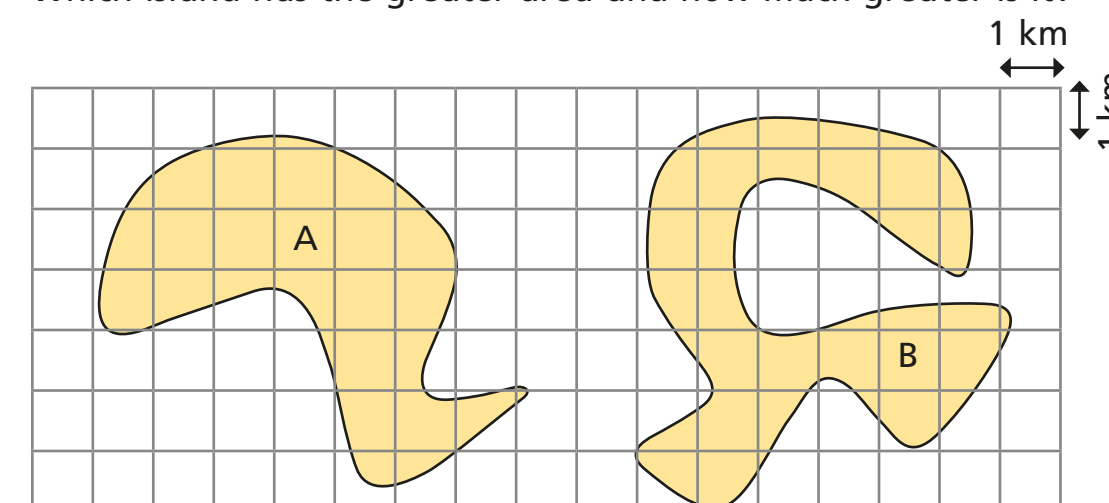
c) Compare your estimates for a) and b). Do you notice anything?

4

Here is the outline of two islands.

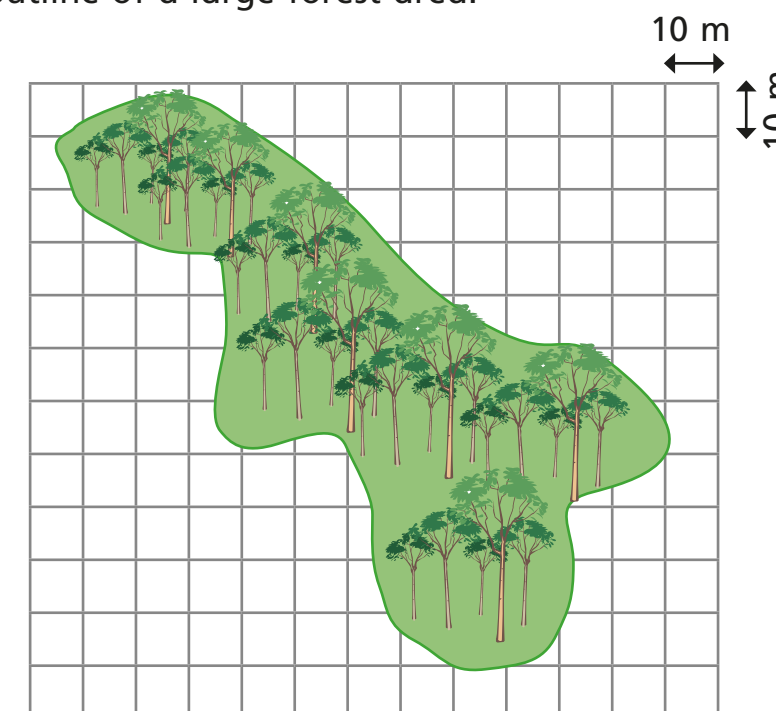
Each square represents 1 km^2 of land.

Which island has the greater area and how much greater is it?



5

This is the outline of a large forest area.



Estimate the area of the forest.

