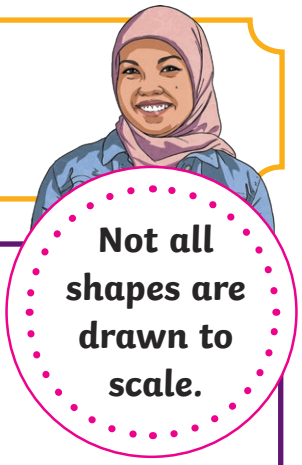
Perimeter of Rectangles

To calculate the perimeter of rectangles, including squares.

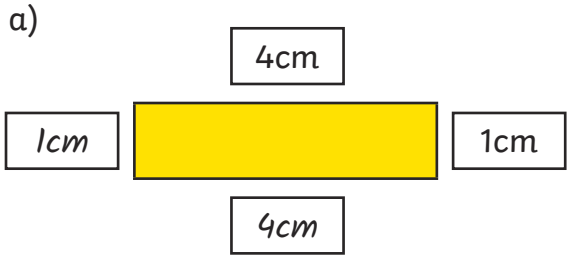
In rectangles, opposite sides are equal.
Use this property to calculate the perimeter of these rectangles.



Not all shapes are drawn to scale.

1) Complete the missing sides and add together to calculate the perimeter. The first one has been done for you.

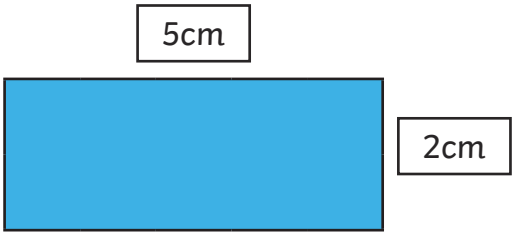
a)



Perimeter =

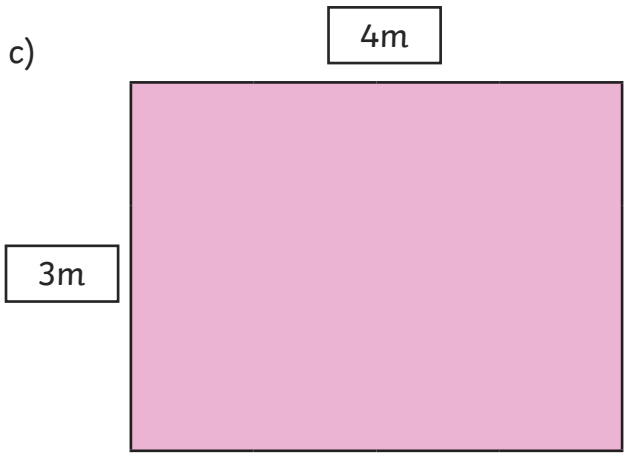
4cm + 1cm + 4cm + 1cm = 10cm

b)



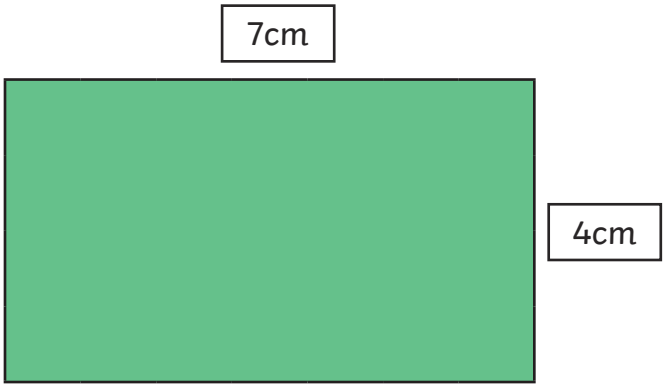
Perimeter =

c)



Perimeter =

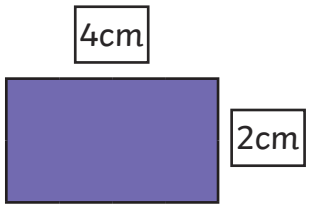
d)



Perimeter =

2) Calculate the perimeter. The first one has been done for you.

a)

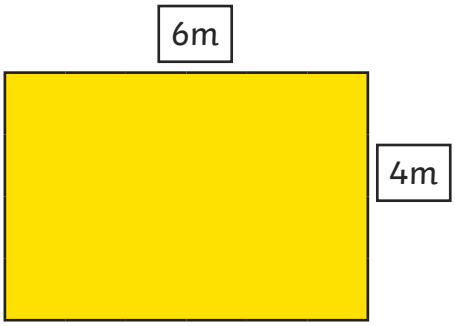


length × 2 + width × 2

Perimeter =

8cm + 4cm = 12cm

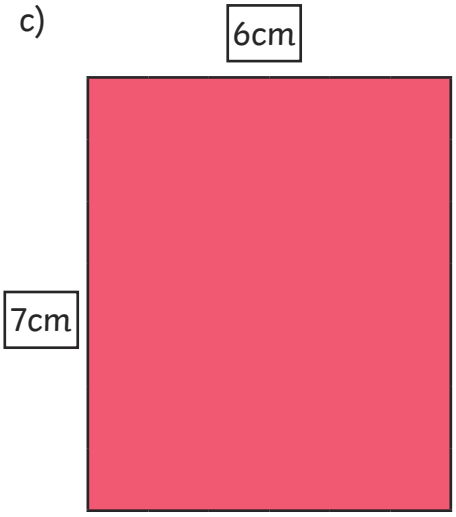
b)



length × 2 + width × 2

Perimeter =

c)

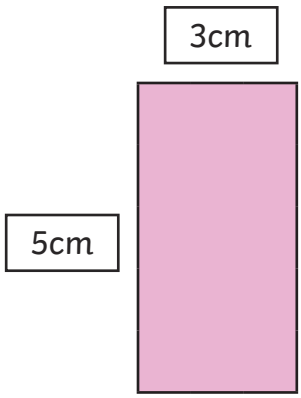


length × 2 + width × 2

Perimeter =

3) Calculate the perimeter. The first one has been done for you.

a)

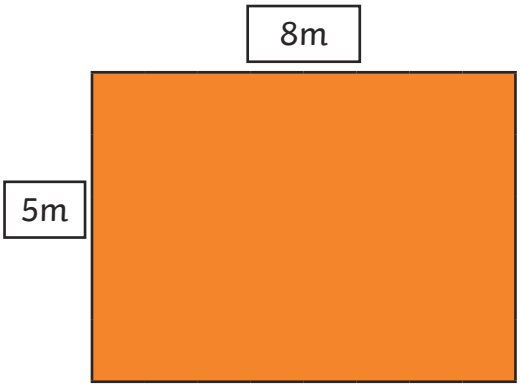


(length + width) × 2

Perimeter =

8cm × 2cm = 16cm

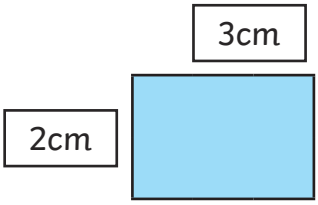
b)



(length + width) × 2

Perimeter =

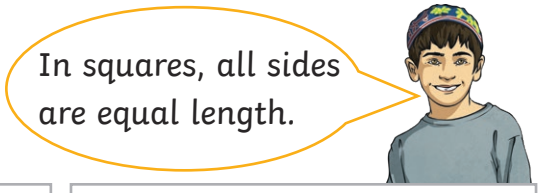
c)



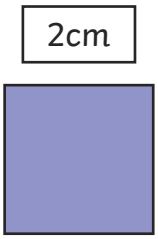
(length + width) × 2

Perimeter =

4) Calculate the perimeter. The first one has been done for you.



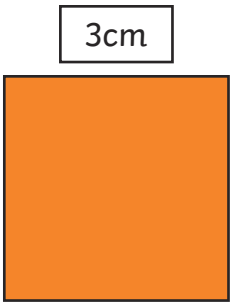
a)



length × 4

Perimeter =
2cm × 4 = 8cm

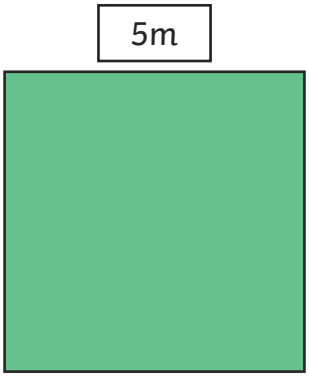
b)



length × 4

Perimeter =

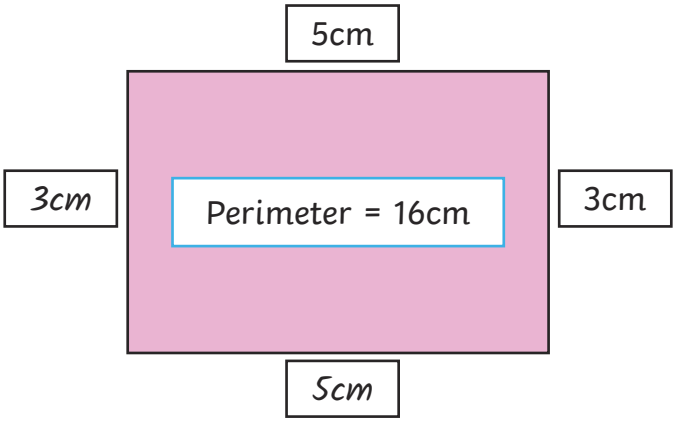
c)



length × 4

Perimeter =

5) Calculate the length of all sides on the second rectangle. One has been done for you.



Known side × 2

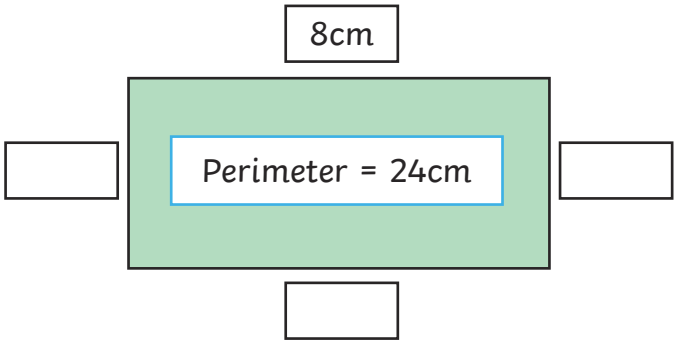
5cm × 2 = 10cm

Subtract this from the perimeter.

16cm - 10cm = 6cm

Divide by 2 to find the length of the other sides.

6cm ÷ 2 = 3cm



Known side × 2

Subtract this from the perimeter.

Divide by 2 to find the length of the other sides.

Perimeter of Rectangles **Answers**

1) (Addition in any order)

b) 5cm + 2cm + 5cm + 2cm = 14cm

c) 4m + 3m + 4m + 3m = 14m

d) 7cm + 4cm + 7cm + 4cm = 22cm

2) b) 12m + 8m = 20m

c) 14cm + 12cm = 26cm

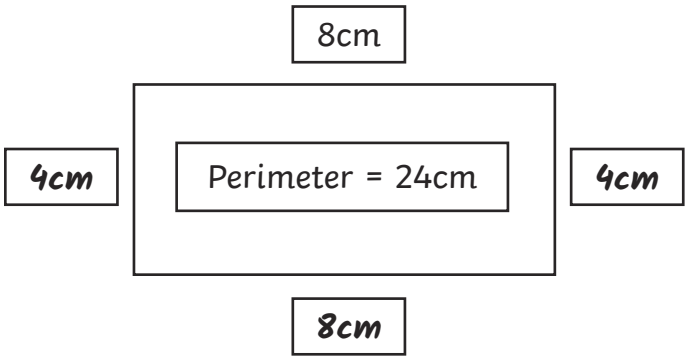
3) b) 13m × 2 = 26m

c) 5cm × 2 = 10cm

4) b) 3cm × 4 = 12cm

c) 5m × 4 = 20m

5)



Known side × 2

8cm × 2 = 16cm

Subtract this from the perimeter.

24cm - 16cm = 8cm

Divide by 2 to find length of other sides.

8cm ÷ 2 = 4cm

Perimeter of Rectangles

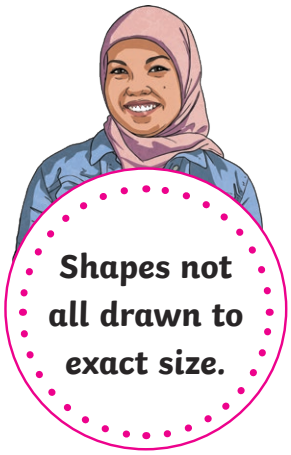
To calculate the perimeter of rectangles, including squares.

Here are different methods to calculate the perimeter of a rectangle:

Method 1
Add the length of all sides together.

Method 2
length × 2 + width x 2

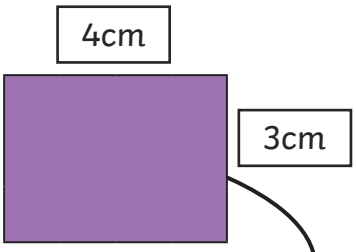
Method 3
(length + width) × 2



Shapes not all drawn to exact size.

1) Choose different methods to calculate the perimeter of these shapes. Say which method you chose and show the calculation you used to calculate the perimeter.

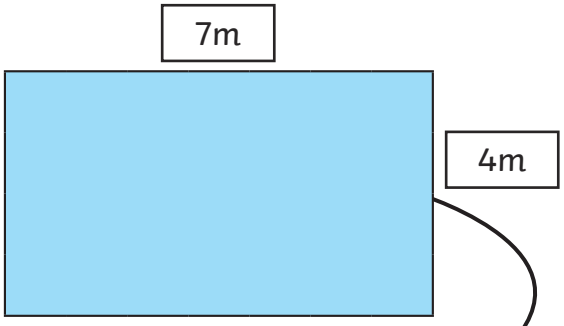
a)



Method (circle method used) 1 2 3

Calculation:

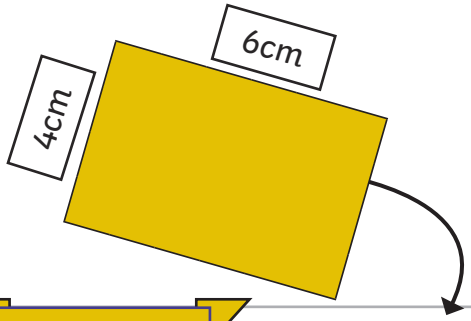
b)



Method (circle method used) 1 2 3

Calculation:

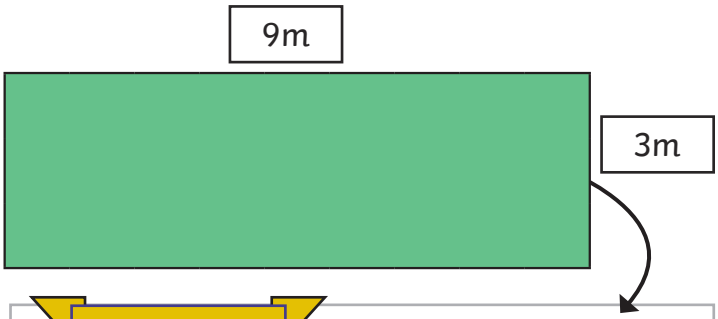
c)



Method (circle method used) 1 2 3

Calculation:

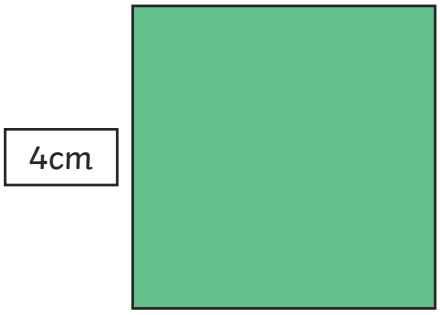
d)



Method (circle method used) 1 2 3

Calculation:

2) Calculate the perimeter of this square. Explain the method you used to work out the answer.



Perimeter =

Method:

Here is a method for finding the measurement of a missing side, where the perimeter and one side are given.

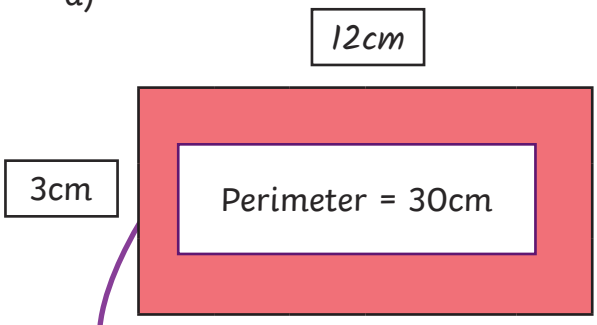
Method

Known side × 2

Subtract this from the perimeter.
Divide by 2 to find the length of the other sides.

3) Use the method to calculate the length of missing sides on these rectangles. The first one has been done for you.

a)

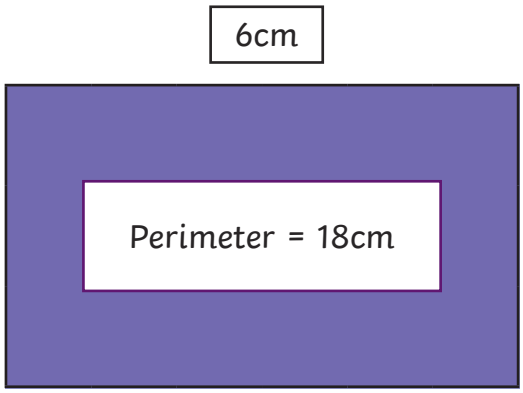


3cm × 2 = 6cm

30cm - 6cm = 24cm

24cm ÷ 2 = 12cm

b)



4) Explain how to find the lengths of the sides on a square, where the perimeter alone is given. Explain why this method works.

5) Use the method you described in question 4 to calculate the length of the sides of a square with a perimeter of 12m. Show the calculation you used.

Perimeter of Rectangles **Answers**

1) a) 14cm

   b) 22m

   c) 20cm

   d) 24m

2) Perimeter = 16cm

   Method = Length of the known side multiplied by 4.

3) b) 6cm × 2 = 12cm

   18cm - 12cm = 6cm

   6cm ÷ 2 = 3cm

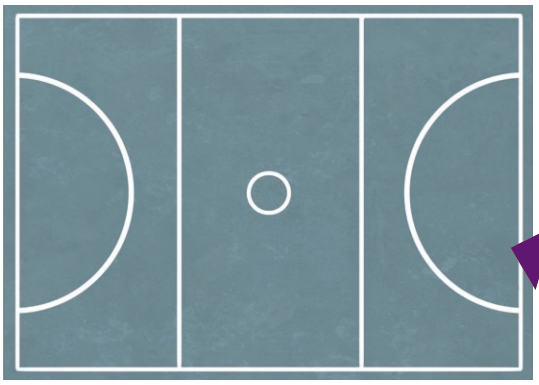
4) Children's explanations may vary, for example: Divide the perimeter by 4. This method works because all four sides of a square are equal.

5) 12cm ÷ 4 = 3cm

Perimeter of Rectangles

To calculate the perimeter of rectangles, including squares.

1)



A netball court is 30m long and 15m wide.

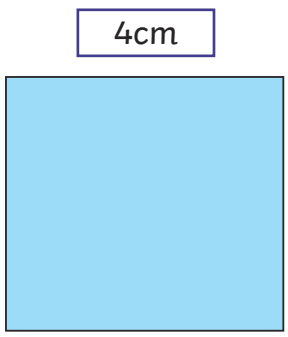
a) Josh runs around the perimeter of the court **twice**. Draw a circle around the distance he ran altogether. Show how you worked out the answer, You can draw diagrams to help your calculation if it helps your thinking.

90m	120m	180m	100m

b) The netball court is divided in thirds. What is the perimeter of one of the thirds? Show how you worked out the answer, you can draw diagrams to help your calculation.

2)

Here is a square:

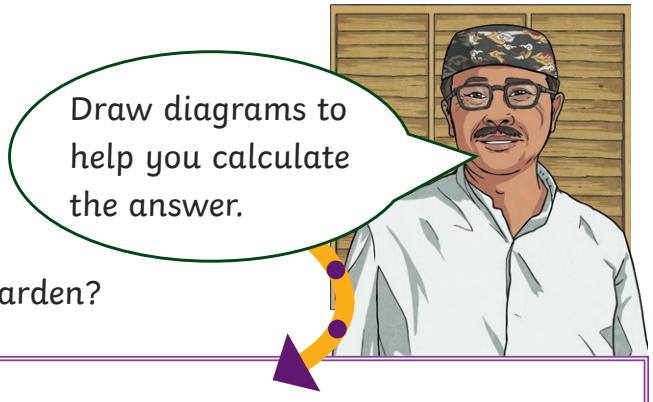


a) What is the perimeter? Show the calculation you did to work it out.

b) If 5 squares were placed side by side, would the overall perimeter by greater than or less than the perimeter of one square with sides measuring 15cm? Show how you worked out the answer.

3) I am placing a fence around the outside of my rectangular garden.

- Each fence panel is 2m long.
- The longest side of my garden is 20m.
- I used 30 fence panels in total around the garden.



What is the length of the shortest side of my garden?

Perimeter of Rectangles **Answers**

1) a)

90m 120m **180m** 100m

b) 50m

2) a) 16cm

b) 5 squares: perimeter = 48cm. Perimeter of square with 15cm sides = 60cm

The 5 squares together would have a perimeter less than the one square with sides of 15cm.

3) 10m