













# Measurement: Calculate Perimeter

<b>Aim</b> <b>Measure the perimeter of simple 2-D shapes.</b>  To calculate the perimeter of simple shapes.	<b>Success Criteria</b> I can calculate the perimeter of shapes where the sides are not all in the same unit of measurement.  I can use the properties of squares to calculate perimeter.  I can use the properties of rectangles to calculate perimeter.  I can calculate the length of an unknown side of a rectangle, given the perimeter and length of one side.	<b>Resources</b> <a href="#">Lesson Pack</a>
	<b>Key/New Words</b> Perimeter, calculate, properties, rectangle, square.	<b>Preparation</b> Differentiated <a href="#">Calculate Perimeter Activity Sheets</a> – one per child  <a href="#">Diving into Mastery Activity Sheets</a> – as required

<b>Prior Learning</b>	It will be helpful if children can measure the perimeter of simple shapes, as covered in <a href="#">Measure Perimeter</a> .
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## Learning Sequence

	<b>Remember It:</b> Children calculate the perimeter of rectangles and squares shown on the <a href="#">Lesson Presentation</a> . They sort the shapes into those which have perimeters less than 16cm and those with a perimeter 16cm and greater.	
	<b>Different Units:</b> The <a href="#">Lesson Presentation</a> demonstrates how to calculate the perimeter of shapes where the sides are not all written in the same unit of measurement. Children convert the measurements so that they are all in the same unit, before calculating the perimeter. <b>Can the children calculate the perimeter of shapes where the sides are not all in the same unit of measurement?</b>	
	<b>Perimeter of Squares:</b> Children use their knowledge of squares (all sides are equal) to calculate the perimeter. The <a href="#">Lesson Presentation</a> demonstrates how to use repeated addition or multiplication to calculate the perimeter of squares. <b>Can the children use the properties of squares to calculate perimeter?</b>	
	<b>Perimeter of Rectangles:</b> Children use their knowledge of rectangles (opposite sides are equal) to calculate the perimeter. The <a href="#">Lesson Presentation</a> demonstrates how to use addition and multiplication to calculate the perimeter of rectangles. <b>Can the children use the properties of rectangles to calculate perimeter?</b>	
	<b>Missing Sides:</b> The <a href="#">Lesson Presentation</a> shows how to calculate the length of a side of a rectangle, where the length of one side and the perimeter is given. <b>Can the children calculate the length of an unknown side of a rectangle, given the perimeter and length of one side?</b>	
 <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">★</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">★★</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">★★★</div> </div> <p>To support children working towards expected level, children complete sentences to calculate the perimeter of squares and rectangles.</p> <p>Children working at the expected level follow examples to calculate the perimeter of squares and rectangles. They also calculate the length of the shorter side of a rectangle, given the length of the longer side and the perimeter.</p> <p>To challenge children working at greater depth, children use their own methods to calculate the perimeter of squares and rectangles. They also calculate the length of the shorter side of a rectangle, given the length of the longer side and the perimeter.</p>		



**Diving into Mastery:** Schools using a mastery approach may prefer to use the following as an alternative activity. These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.



Children practise their fluency skills in calculating the perimeter of squares and rectangles and working out the length of missing sides.



Children use their reasoning skills to show their understanding of how to calculate the perimeter of squares and rectangles.



Children solve open-ended questions about the perimeter of squares and rectangles. They identify shapes which fit a set of clues about perimeter.

#### Exploreit

**Drawit:** Children draw squares and rectangles which have a perimeter of 36cm.

**Learnit:** Children will find this superb, visually exciting [Knowledge Organiser](#) a useful tool to support their understanding of length and perimeter.

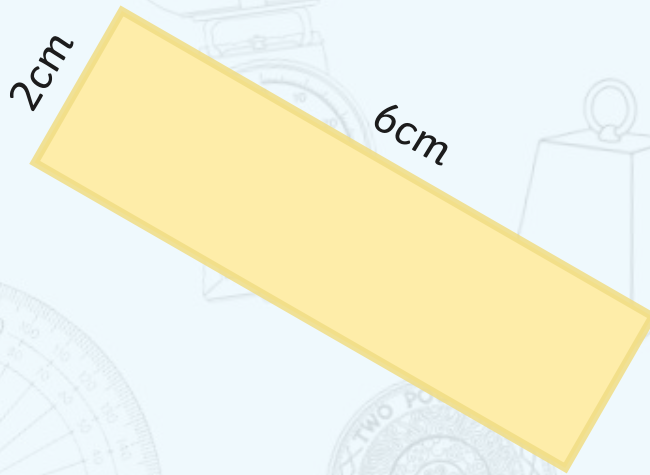
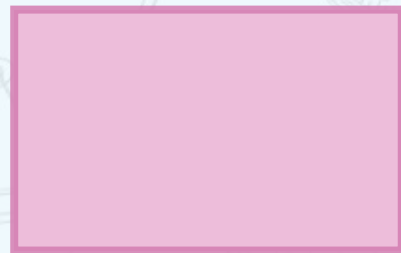


# Maths

## Measurement



# Calculate Perimeter



## Aim

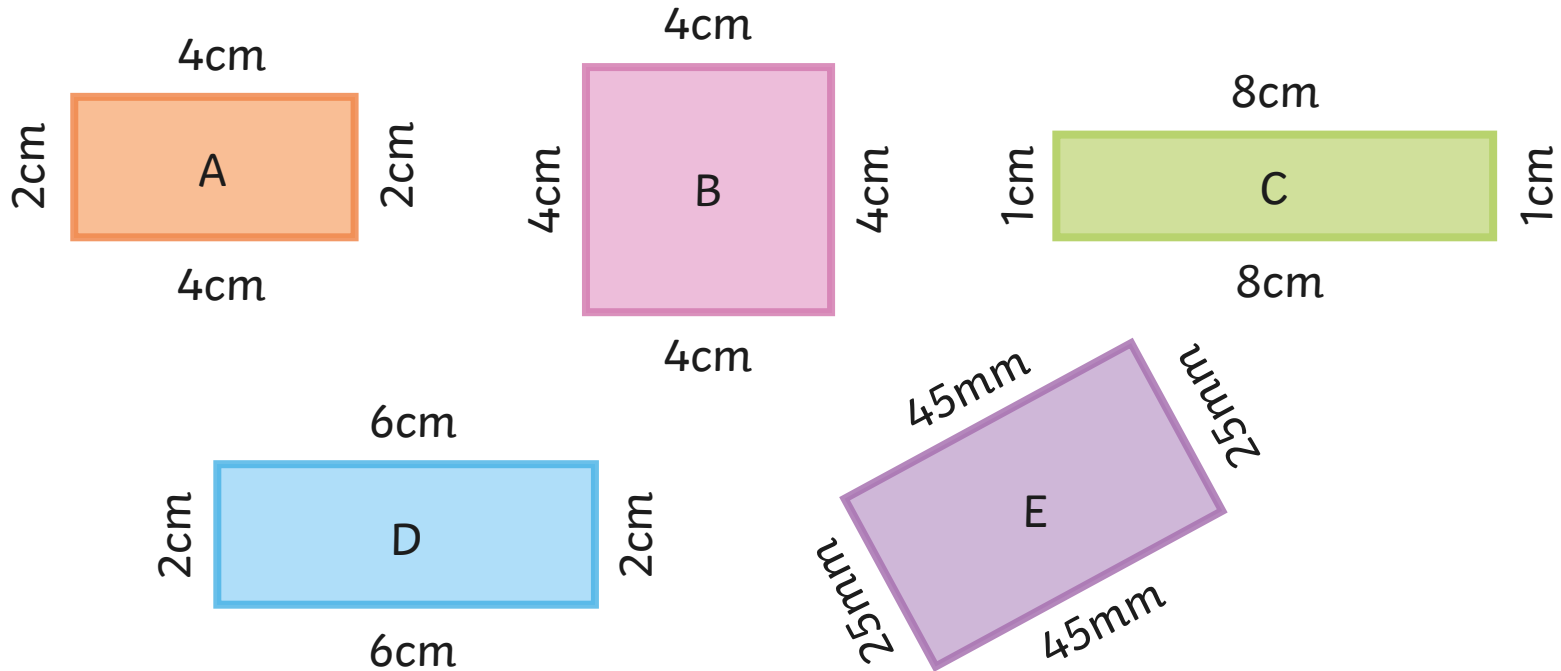
- To calculate the perimeter of simple shapes.

## Success Criteria

- I can calculate the perimeter of shapes where the sides are not all in the same unit of measurement.
- I can use the properties of squares to calculate perimeter.
- I can use the properties of rectangles to calculate perimeter.
- I can calculate the length of an unknown side of a rectangle, given the perimeter and length of one side.

# Remember It

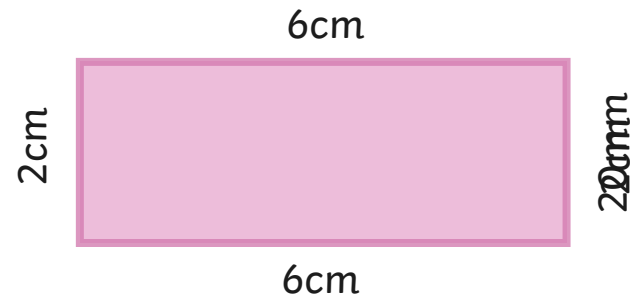
Sort these shapes by perimeter. Draw the table and write the letter of the shape in the correct column.



Perimeters Less than 16cm	Perimeters 16cm or Greater
A E	B C D

## Different Units

How can we calculate the perimeter of this shape?



We need to ensure all the sides are measured in the same unit of measurement.

One side is recorded in millimetres. Because the other sides are in centimetres, we need to convert this side to centimetres.

$$20\text{mm} = 2\text{cm}.$$

Now add together the lengths of the sides to calculate the perimeter:

$$6\text{cm} + 2\text{cm} + 6\text{cm} + 2\text{cm}$$

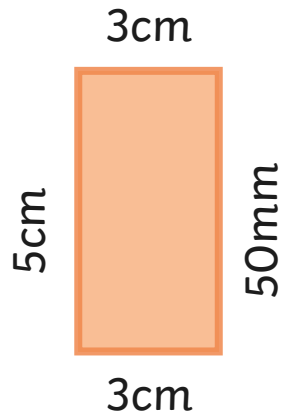
How are you going to add the measurements?

Here's one way:

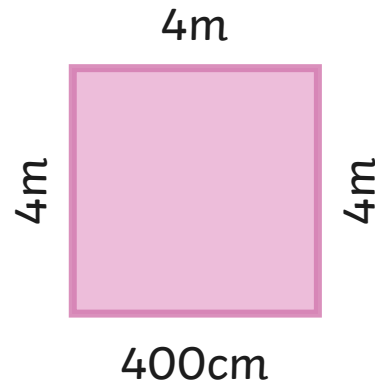
$$\begin{aligned}6\text{cm} + 2\text{cm} &= 8\text{cm} \\6\text{cm} + 2\text{cm} &= 8\text{cm} \\8\text{cm} + 8\text{cm} &= 16\text{cm}\end{aligned}$$



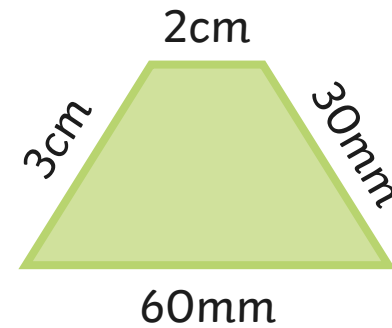
Calculate the perimeter of these shapes.  
Remember to make sure all sides are the same unit of measurement.



Perimeter =  
16cm  
or  
160mm



Perimeter =  
16m  
or  
1600cm



Perimeter =  
14cm  
or  
140mm

# Perimeter of Squares



What do you know about all squares?

4 sides

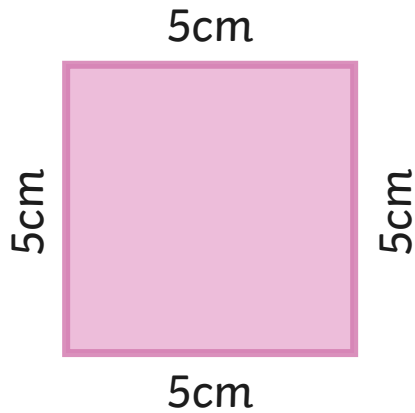
Corners are right angles.

All sides are equal.

Which of these properties will help us when calculating the perimeter of squares?

**All sides are equal.**

# Perimeter of Squares



Do we have enough information to calculate the area of this square?

Because all sides are equal,  
we know that the sides not labelled are also 5cm.

So, the perimeter of this square =  $5\text{cm} + 5\text{cm} + 5\text{cm} + 5\text{cm} = 20\text{cm}$

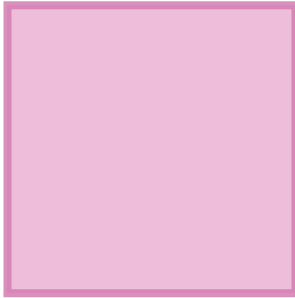
How could we use multiplication?

There are 4 sides each measuring 5cm.

$$5\text{cm} \times 4 = 20\text{cm}$$

# Perimeter of Squares

5cm



Perimeter =

$$5\text{cm} + 5\text{cm} + 5\text{cm} + 5\text{cm} = 20\text{cm}$$

or

$$5\text{cm} \times 4 = 20\text{cm}$$

Calculate the area of these squares.

Write a repeated addition calculation and a multiplication calculation.

4cm



Perimeter =

$$4\text{cm} + 4\text{cm} + 4\text{cm} + 4\text{cm} = 16\text{cm}$$

or

$$4\text{cm} \times 4 = 16\text{cm}$$

2m



Perimeter =

$$2\text{m} + 2\text{m} + 2\text{m} + 2\text{m} = 8\text{m}$$

or

$$2\text{m} \times 4 = 8\text{m}$$

# Perimeter of Rectangles



What do you know about all rectangles?

4 sides

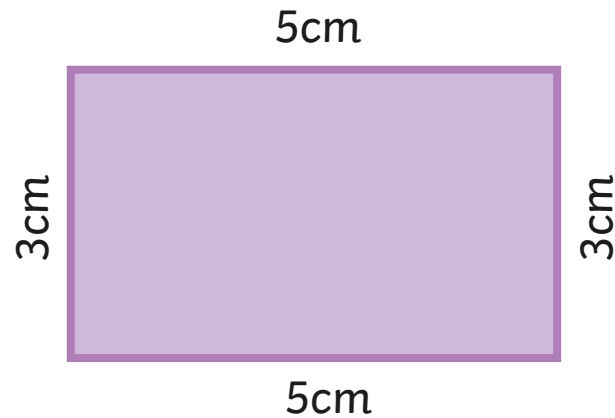
Corners are right angles.

Opposite sides are equal.

Which of these properties will help us when calculating the perimeter of rectangles?

**Opposite sides are equal.**

## Perimeter of Rectangles



Do we have enough information to calculate the area of this rectangle?

Because opposite sides are equal,  
we know the length of the unlabelled sides.

The long side is 5cm, so the opposite side is also 5cm.

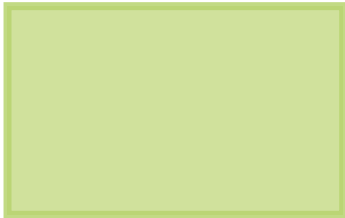
The short side is 3cm, so the opposite side is also 3cm.

Now we have enough information to calculate the perimeter.

# Perimeter of Rectangles

Add together the length of all sides to calculate the perimeter of these shapes:

4cm



3cm

Perimeter =

$$4\text{cm} + 3\text{cm} + 4\text{cm} + 3\text{cm} = 14\text{cm}$$

(You may have added the measurements in a different order)

6cm



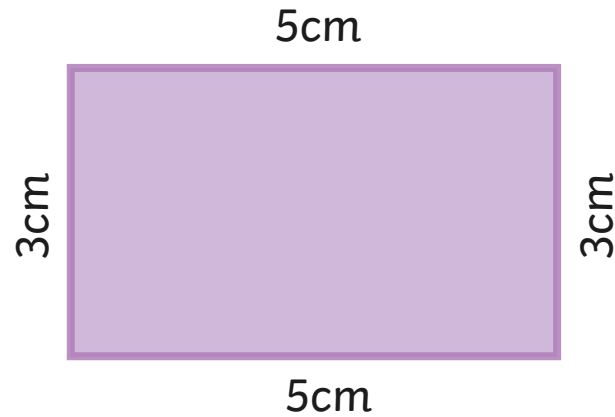
2cm

Perimeter =

$$6\text{cm} + 6\text{cm} + 2\text{cm} + 2\text{cm} = 16\text{cm}$$

(You may have added the measurements in a different order)

# Perimeter of Rectangles



We could use multiplication to record the calculations.

We have two sides measuring 3cm and 2 sides measuring 5cm:

$$3\text{cm} \times 2$$

+

$$5\text{cm} \times 2$$

$$= 6\text{cm} + 10\text{cm} = 16\text{cm}$$

Another way would be to add together the longer side and the shorter side and multiply this by 2.

$$5\text{cm} + 3\text{cm}$$

$$\times 2 = 8\text{cm} \times 2 = 16\text{cm}$$



# Perimeter of Rectangles

Add together the length of all sides to calculate the perimeter of these shapes:



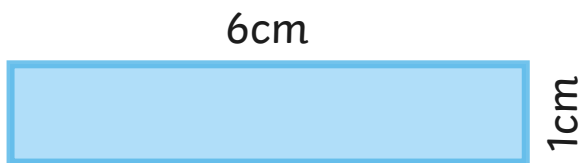
Perimeter =

$$7\text{cm} \times 2 + 3\text{cm} \times 2 = 14\text{cm} + 6\text{cm} = 20\text{cm}$$

or

$$7\text{cm} + 3\text{cm}$$

$$\times 2 = 20\text{cm}$$



Perimeter =

$$6\text{cm} \times 2 + 1\text{cm} \times 2 = 12\text{cm} + 2\text{cm} = 14\text{cm}$$

or

$$6\text{cm} + 1\text{cm}$$

$$\times 2 = 14\text{cm}$$

## Missing Sides

The perimeter of this shape is 20cm.

The longer side measures 6cm.

Do we have enough information to calculate the length of the shorter sides?

6cm



6cm

We can use a bar model to help us.



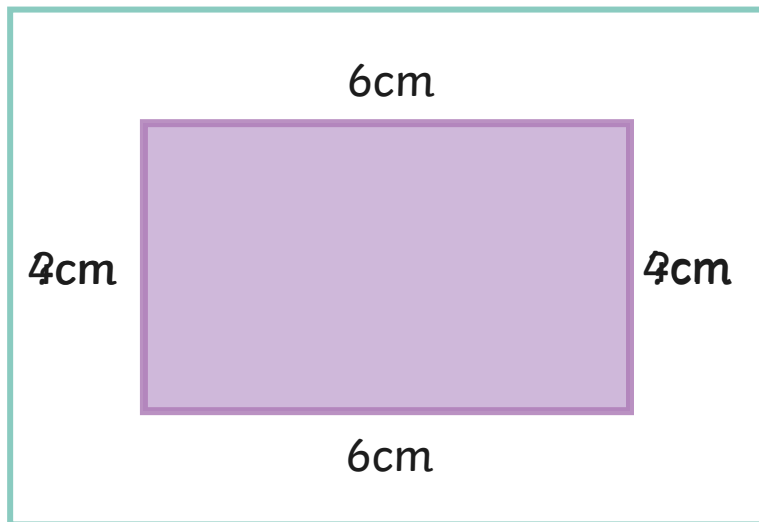
We know the longer side is 6cm, so the opposite side is also 6cm.

# Missing Sides

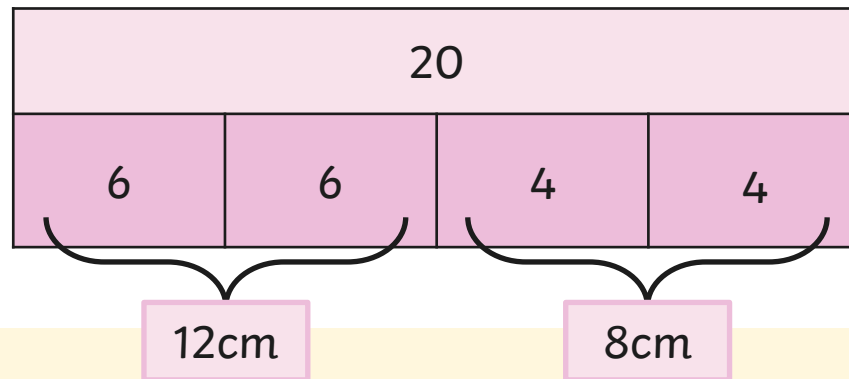
The perimeter of this shape is 20cm.

The longer side measures 6cm.

Do we have enough information to calculate the length of the shorter sides?



We can use a bar model to help us.

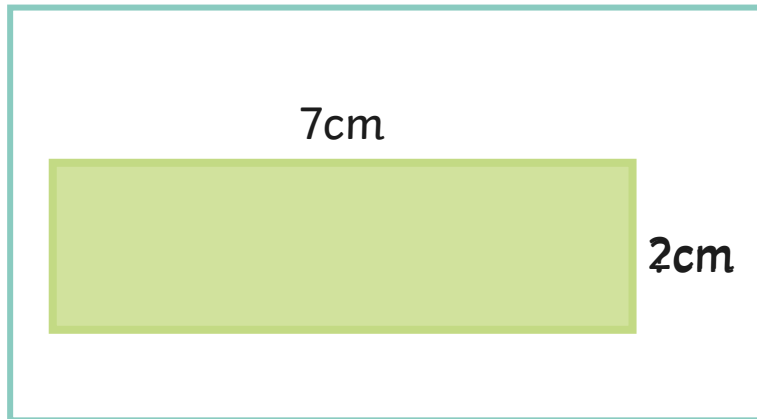


20cm As the shorter sides measure 4cm, do they add up to 8cm? The shorter sides measure 4cm. Do they add up to 8cm?

$$6\text{cm} + 6\text{cm} + 4\text{cm} + 4\text{cm} = 20\text{cm}$$

## Missing Sides

Calculate the length of the shorter side on this rectangle.



Perimeter =  $18\text{cm}$

18			
7	?	?	?

$$7\text{cm} + 7\text{cm} + \boxed{2}\text{ cm} + \boxed{2}\text{ cm} = 18\text{cm}$$

A bracket under the first two terms ( $7\text{cm} + 7\text{cm}$ ) points to a box containing  $14\text{cm}$ .

$$18\text{cm} - 14\text{cm} = 4\text{cm}$$


$$4\text{cm} \div 2 = 2\text{cm}$$


The shorter side measures  $2\text{cm}$ .

## Calculate Perimeter

To calculate the perimeter of simple shapes.


- 1) Use what you know about squares to calculate the perimeter. An example is given.

3cm 	Using addition: $3\text{cm} + 3\text{cm} + 3\text{cm} + 3\text{cm} = 12\text{cm}$	Shapes not all drawn to the same scale
	Using multiplication: $3\text{cm} \times 4 = 12\text{cm}$	

a) 

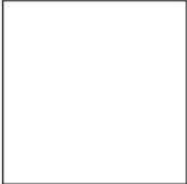
Using addition:  
 $\square \text{ cm} + \square \text{ cm} + \square \text{ cm} + \square \text{ cm} = \square \text{ cm}$

Using multiplication:  
 $\square \text{ cm} \times \square = \square$

b) 

Using addition:  
 $\square \text{ cm} + \square \text{ cm} + \square \text{ cm} + \square \text{ cm} = \square \text{ cm}$

Using multiplication:  
 $\square \text{ cm} \times \square = \square$

c) 

Using addition:  
 $\square \text{ cm} + \square \text{ cm} + \square \text{ cm} + \square \text{ cm} = \square \text{ cm}$

Using multiplication:  
 $\square \text{ cm} \times \square = \square$


Perimeter


cm  
cm  
cm  
cm


## Calculate Perimeter

To calculate the perimeter of simple shapes.

- 1) Use what you know about squares to calculate the perimeter. Write both an addition calculation and a multiplication calculation. An example is given.

5cm 	Using addition: $5\text{cm} + 5\text{cm} + 5\text{cm} + 5\text{cm} = 20\text{cm}$	Shapes not all drawn to the same scale
	Using multiplication: $5\text{cm} \times 4 = 20\text{cm}$	

a) 

b) 

- 2) Use what you know about rectangles to calculate the perimeter. An example is given.

3cm 	Using addition: $3\text{cm} + 3\text{cm} + 2\text{cm} + 2\text{cm} = 10\text{cm}$
Opposite sides are equal.	Using multiplication: $3\text{cm} \times 2 = 6\text{cm}$ $2\text{cm} \times 2 = 4\text{cm}$ $6\text{cm} + 4\text{cm} = 10\text{cm}$

Calculate Perimeter

perimeter and the longer side has been given.

5cm = 2cm =  $\square$  cm +  $\square$  cm =  $\square$  cm

8cm - 14cm = 4cm 4cm + 2 = 2cm  
The shorter side is 2cm.

## Calculate Perimeter

To calculate the perimeter of simple shapes.

- 1) Use what you know about squares to calculate the perimeter. Show your working out. Use an addition calculation in one question and a multiplication calculation in the other.

a) 

Perimeter =


b) 

Perimeter =

- 2) Use what you know about rectangles to calculate the perimeter. Show your working out.

a) 

Perimeter =

b) 

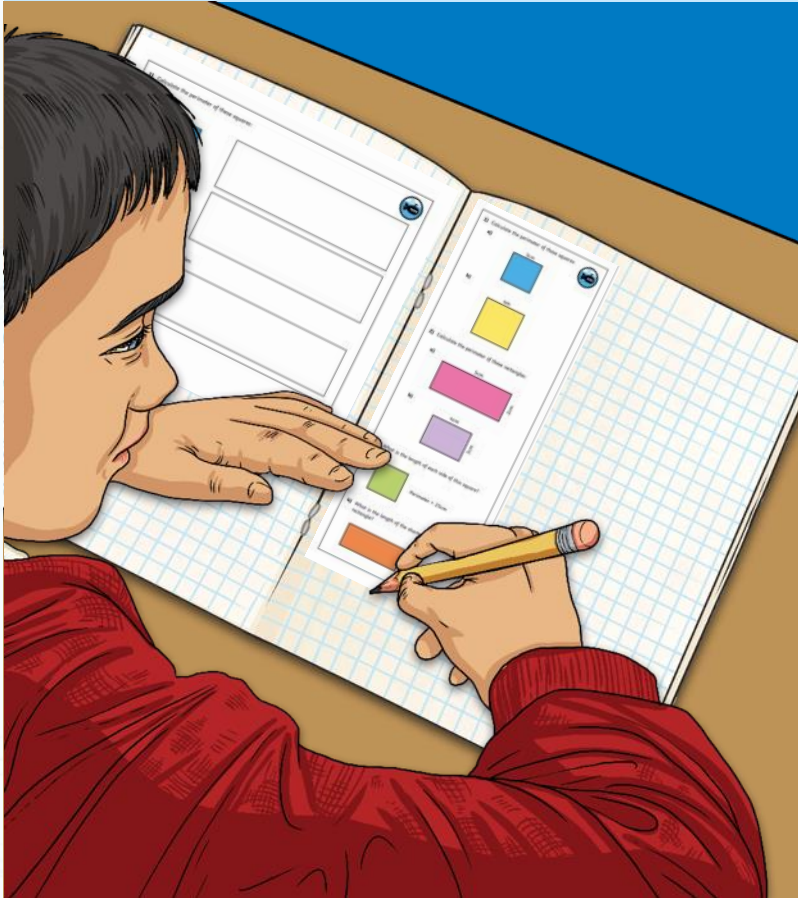
Perimeter =

Calculate Perimeter


perimeter and the longer side has been given.


## Diving into Mastery

Dive in by completing your own activity!





1) Calculate the perimeter of the rectangle.

a)  3cm


b) 

2) Calculate the perimeter of the square.


a) 

b) 

3) What is the perimeter of this rectangle?

a) 

4) What is the perimeter of this rectangle?

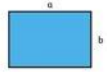
a) 

1) Do you know the perimeter of a square?


2) Leo has a square. The perimeter is 20cm. What could be the length of the sides of the square? Find all possibilities.

3) The perimeter of a square is 20cm. What could be the length of the sides of the square? Find all possibilities.

1) The perimeter of a rectangle is 18cm. The lengths are all whole numbers. What could the lengths of the sides a (longer side) and b (shorter side) be? Find all possibilities.




2) A square has a perimeter greater than 20cm and less than 60cm. The sides of the square are an odd number of centimetres. What could be the length of the sides of the square. Find all possibilities.

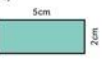



3) Here are some clues about a rectangle:


- The difference between the longer and shorter side is 3cm
- The perimeter is greater than 20cm
- The perimeter is less than 40cm

Which of these shapes could the rectangle be?

a)  7cm 4cm

b)  5cm 2cm

c)  8cm Perimeter = 22cm

d)  10cm 7cm

Shapes not drawn to scale.

twinkl planit twinkl planit twinkl planit

Measurement | Perimeter | Lesson 2 of 2 | Calculate Perimeter

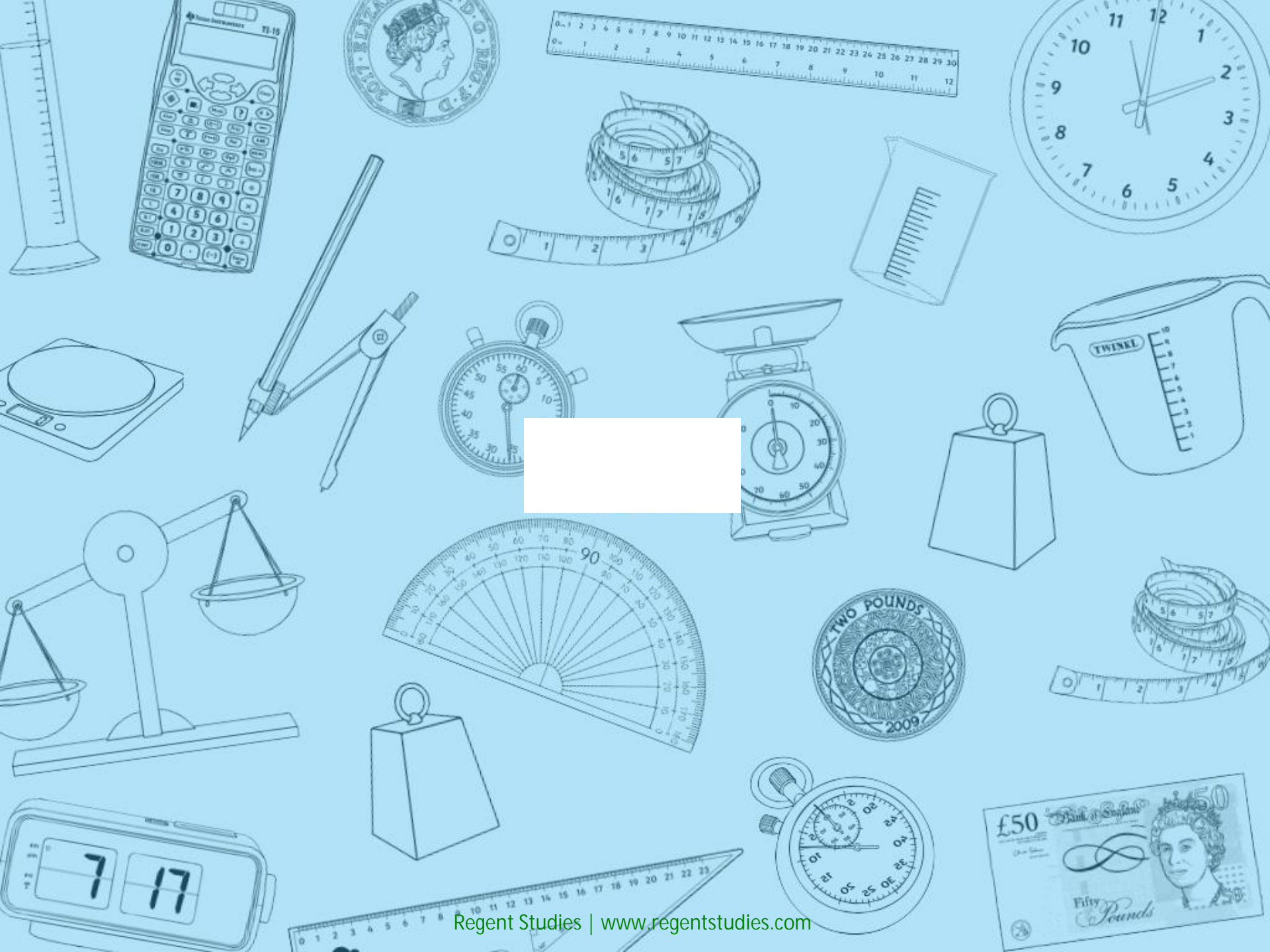
visit twinkl.com

## Aim

- To calculate the perimeter of simple shapes.

## Success Criteria

- I can calculate the perimeter of shapes where the sides are not all in the same unit of measurement.
- I can use the properties of squares to calculate perimeter.
- I can use the properties of rectangles to calculate perimeter.
- I can calculate the length of an unknown side of a rectangle, given the perimeter and length of one side.






# Calculate Perimeter

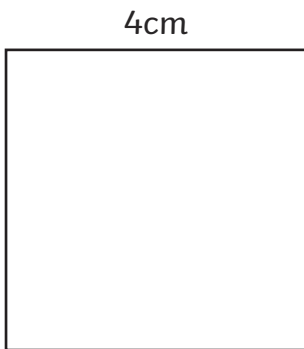
To calculate the perimeter of simple shapes.



1) Use what you know about squares to calculate the perimeter. An example is given.

 <p>3cm</p>	Using addition: $3\text{cm} + 3\text{cm} + 3\text{cm} + 3\text{cm} = 12\text{cm}$	Shapes not all drawn to the same scale
	Using multiplication: $3\text{cm} \times 4 = 12\text{cm}$	

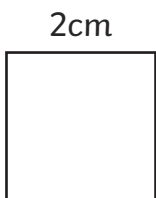
a)



Using addition:  
 cm +  cm +  cm +  cm =  cm

Using multiplication:  
 cm x  =

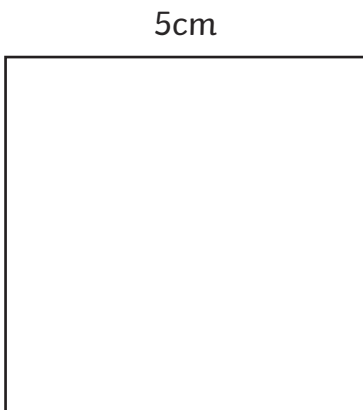
b)



Using addition:  
 cm +  cm +  cm +  cm =  cm

Using multiplication:  
 cm x  =


c)



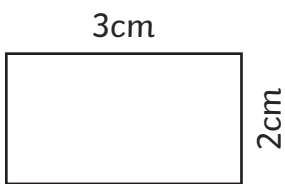
Using addition:  
 cm +  cm +  cm +  cm =  cm

Using multiplication:  
 cm x  =

2) Use what you know about rectangles to calculate the perimeter. An example is given.

	Using addition: $4\text{cm} + 4\text{cm} + 2\text{cm} + 2\text{cm} = 12\text{cm}$										
Opposite sides are equal.	Using multiplication: <table style="margin: auto;"> <tr> <td style="border: 1px solid black; padding: 5px;"><math>4\text{cm} \times 2</math></td> <td style="padding: 0 10px;">+</td> <td style="border: 1px solid black; padding: 5px;"><math>2\text{cm} \times 2</math></td> <td style="padding: 0 10px;">=</td> <td style="border: 1px solid black; padding: 5px;"><math>12\text{cm}</math></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px; text-align: center;">8cm</td> <td></td> <td style="border: 1px solid black; padding: 5px; text-align: center;">4cm</td> <td></td> <td></td> </tr> </table>	$4\text{cm} \times 2$	+	$2\text{cm} \times 2$	=	$12\text{cm}$	8cm		4cm		
$4\text{cm} \times 2$	+	$2\text{cm} \times 2$	=	$12\text{cm}$							
8cm		4cm									

a)



Using addition:

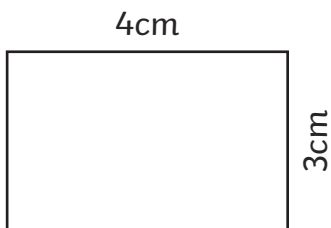
$$\square \text{ cm} + \square \text{ cm} + \square \text{ cm} + \square \text{ cm} = \square \text{ cm}$$

Using multiplication:

$$\square \text{ cm} \times 2 + \square \text{ cm} \times 2$$

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

b)



Using addition:

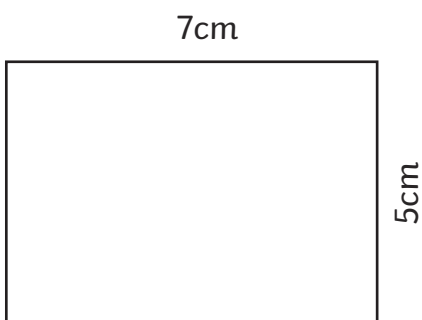
$$\square \text{ cm} + \square \text{ cm} + \square \text{ cm} + \square \text{ cm} = \square \text{ cm}$$

Using multiplication:

$$\square \text{ cm} \times 2 + \square \text{ cm} \times 2$$

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

c)



Using addition:

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

Using multiplication:

$$\square \text{ cm} \times 2 + \square \text{ cm} \times 2$$

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

# Calculate Perimeter

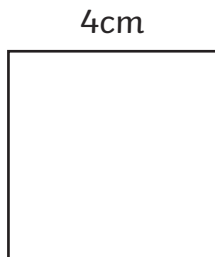
To calculate the perimeter of simple shapes.



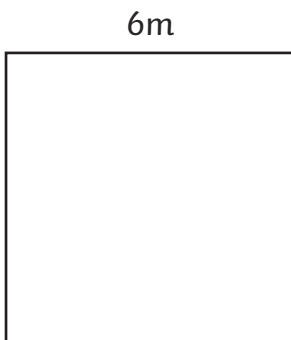
- 1) Use what you know about squares to calculate the perimeter. Write both an addition calculation and a multiplication calculation. An example is given.

	<p>Using addition:</p> $5\text{cm} + 5\text{cm} + 5\text{cm} + 5\text{cm} = 20\text{cm}$	<p>Shapes not all drawn to the same scale</p>
	<p>Using multiplication:</p> $5\text{cm} \times 4 = 20\text{cm}$	

a)



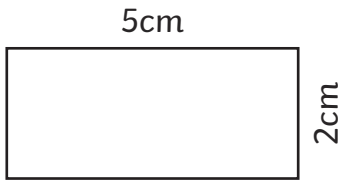
b)



- 2) Use what you know about rectangles to calculate the perimeter. An example is given.

	<p>Using addition:</p> $3\text{cm} + 3\text{cm} + 2\text{cm} + 2\text{cm} = 10\text{cm}$									
	<p>Using multiplication:</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; padding: 5px;"><math>3\text{cm} \times 2</math></td> <td style="padding: 0 10px;">+</td> <td style="border: 1px solid black; padding: 5px;"><math>2\text{cm} \times 2</math></td> <td style="padding: 0 10px;">=</td> <td></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px; text-align: center;">6cm</td> <td></td> <td style="border: 1px solid black; padding: 5px; text-align: center;">4cm</td> <td style="padding: 0 10px;">+</td> <td style="padding: 0 10px;">= 10cm</td> </tr> </table>	$3\text{cm} \times 2$	+	$2\text{cm} \times 2$	=		6cm		4cm	+
$3\text{cm} \times 2$	+	$2\text{cm} \times 2$	=							
6cm		4cm	+	= 10cm						
<p>Opposite sides are equal.</p>										

a)



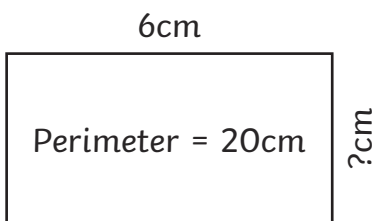
b)



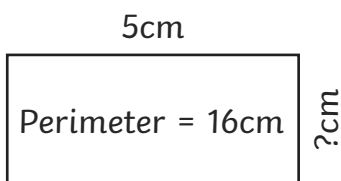
3) Work out the length of the shorter side. The perimeter and the longer side has been given. An example is given.

	$7\text{cm} + 7\text{cm} + \boxed{\phantom{00}} \text{cm} + \boxed{\phantom{00}} \text{cm} =$ <div style="text-align: center; margin: 5px 0;"> <math>\downarrow</math>  <math>14\text{cm}</math> </div> <hr/> $18\text{cm} - 14\text{cm} = 4\text{cm} \quad 4\text{cm} \div 2 = 2\text{cm}$ <p style="text-align: center;">The shorter side is 2cm.</p>
--	---

a)



b)



# Calculate Perimeter

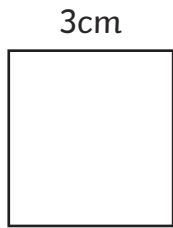
To calculate the perimeter of simple shapes.



- 1) Use what you know about squares to calculate the perimeter. Show your working out. Use an addition calculation in one question and a multiplication calculation in the other.

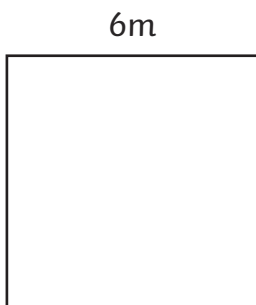
Shapes not all drawn to the same scale

a)



Perimeter =

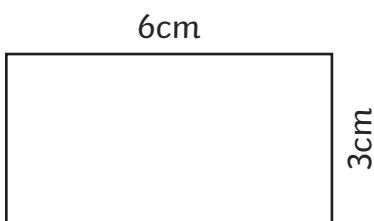
b)



Perimeter =

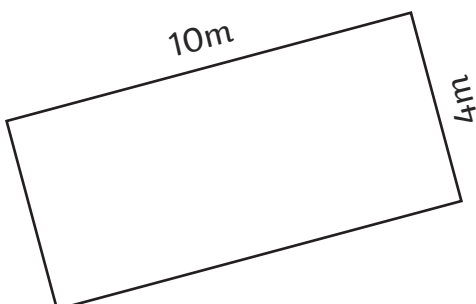
- 2) Use what you know about rectangles to calculate the perimeter. Show your working out.

a)



Perimeter =

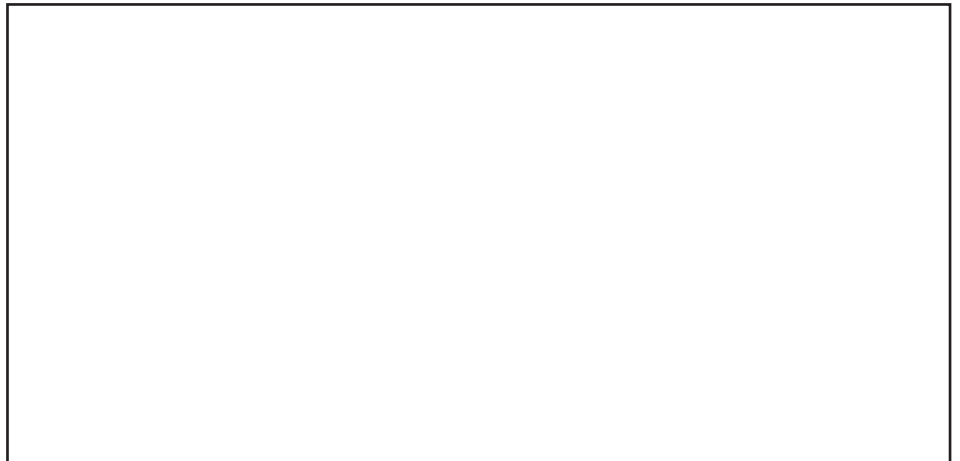
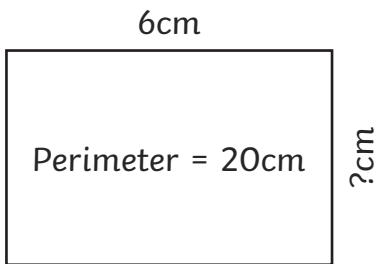
b)



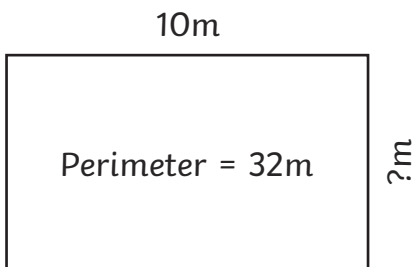
Perimeter =

3) Work out the length of the shorter side. The perimeter and the longer side has been given.  
Show your working out.

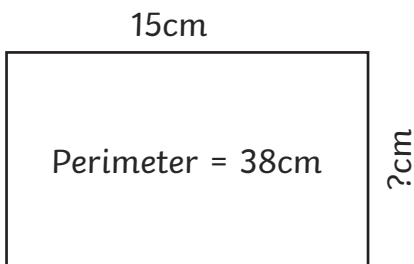
a)



b)



c)



# Calculate Perimeter Answers

1)

a) Using addition:

$$4\text{cm} + 4\text{cm} + 4\text{cm} + 4\text{cm} = 16\text{cm}$$

Using multiplication:

$$4\text{cm} \times 4 = 16\text{cm}$$

b) Using addition:

$$2\text{m} + 2\text{m} + 2\text{m} + 2\text{m} = 8\text{m}$$

Using multiplication:

$$2\text{m} \times 4 = 8\text{m}$$

c) Using addition:

$$5\text{cm} + 5\text{cm} + 5\text{cm} + 5\text{cm} = 20\text{cm}$$

Using multiplication:

$$5\text{cm} \times 4 = 20\text{cm}$$

2)

a) Using addition:

$$3\text{cm} + 3\text{cm} + 2\text{cm} + 2\text{cm} = 10\text{cm}$$

Using multiplication:

$3\text{cm} \times 2$		$2\text{cm} \times 2$		
$6\text{cm}$	+		$4\text{cm}$	$= 10\text{cm}$

b) Using addition:

$$4\text{cm} + 4\text{cm} + 3\text{cm} + 3\text{cm} = 14\text{m}$$

Using multiplication:

$4\text{cm} \times 2$		$3\text{cm} \times 2$		
$8\text{cm}$	+		$6\text{cm}$	$= 14\text{cm}$

c) Using addition:

$$7\text{cm} + 7\text{cm} + 5\text{cm} + 5\text{cm} = 24\text{cm}$$

Using multiplication:

$7\text{cm} \times 2$		$5\text{cm} \times 2$		
$14\text{cm}$	+		$10\text{cm}$	$= 24\text{cm}$

# Calculate Perimeter Answers

1)

a) Using addition:

$$4\text{cm} + 4\text{cm} + 4\text{cm} + 4\text{cm} = 16\text{cm}$$

Using multiplication:

$$4\text{cm} \times 4 = 16\text{cm}$$

b) Using addition:

$$6\text{m} + 6\text{m} + 6\text{m} + 6\text{m} = 24\text{m}$$

Using multiplication:

$$6\text{m} \times 4 = 24\text{m}$$

2)

a) Using addition:

$$5\text{cm} + 5\text{cm} + 2\text{cm} + 2\text{cm} = 14\text{cm}$$

Using multiplication:

$5\text{cm} \times 2$		$2\text{cm} \times 2$		
$10\text{cm}$	+		$4\text{cm}$	$= 14\text{cm}$

b) Using addition:

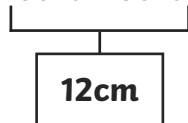
$$6\text{cm} + 6\text{cm} + 3\text{cm} + 3\text{cm} = 18\text{m}$$

Using multiplication:

$6\text{cm} \times 2$		$3\text{cm} \times 2$		
$12\text{cm}$	+		$6\text{cm}$	$= 18\text{cm}$

3)

a)  $6\text{cm} + 6\text{cm} + ? + ? = 20\text{cm}$

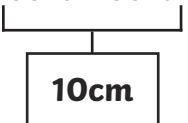


$$20\text{cm} - 12\text{cm} = 8\text{cm}$$

$$8\text{cm} \div 2 = 4\text{cm}$$

The shorter side is 4cm

b)  $5\text{cm} + 5\text{cm} + ? + ? = 16\text{cm}$



$$16\text{cm} - 10\text{cm} = 6\text{cm}$$

$$6\text{cm} \div 2 = 3\text{cm}$$

The shorter side is 3cm



# Calculate Perimeter **Answers**

1)

**a) 12cm**

**b) 24m**

2)

**a) 18cm**

**b) 28m**

3)

**a) 4cm**

**b) 6m**

**c) 4cm**



- 1) a) 12cm
- b) 16m
- 2) a) 14cm
- b) 14m
- 3) 5cm
- 4) 4cm



1) Jade is wrong. As we know that the sides of a square are equal, we only need to know the measurement of one side.

$$3\text{cm} \times 4 = 12\text{cm}$$

2) Leo has added together the length and width of the rectangle. To calculate the correct answer he would need to add together  $2 \times$  length and  $2 \times$  width. Another way would be to add together the length and the width and multiply this by 2. The perimeter is 20cm.

3) Perimeter of rectangle =

$$10\text{cm} + 10\text{cm} + 8\text{cm} + 8\text{cm} = 36\text{cm}$$

$$\text{Side of square} - 36\text{cm} \div 4 = 9\text{cm}$$



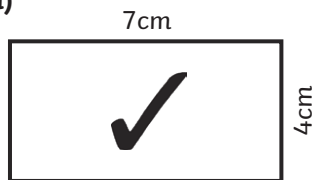
1)

a	b
8cm	1cm
7cm	2cm
6cm	3cm
5cm	4cm

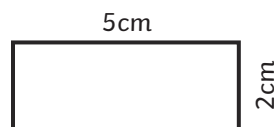
2) 5cm, 7cm, 9cm, 11cm and 13cm

3)

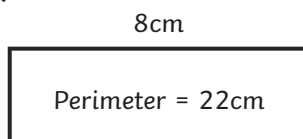
a)



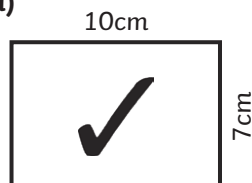
b)



c)

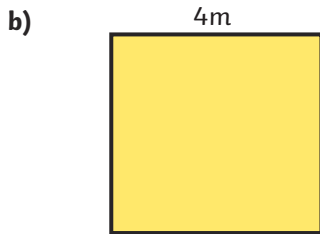
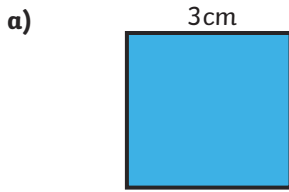


d)

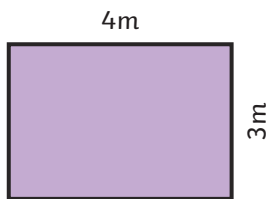
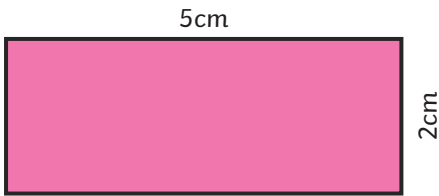




1) Calculate the perimeter of these squares:



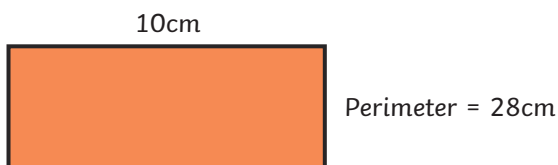
2) Calculate the perimeter of these rectangles:



3) What is the length of each side of this square?

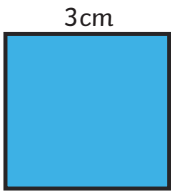


4) What is the length of the shorter sides of this rectangle?

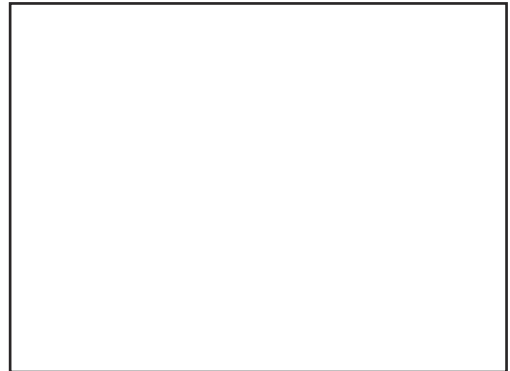




1) Do you agree with Jade? Explain your answer.



There is not enough information to calculate the perimeter of this square.



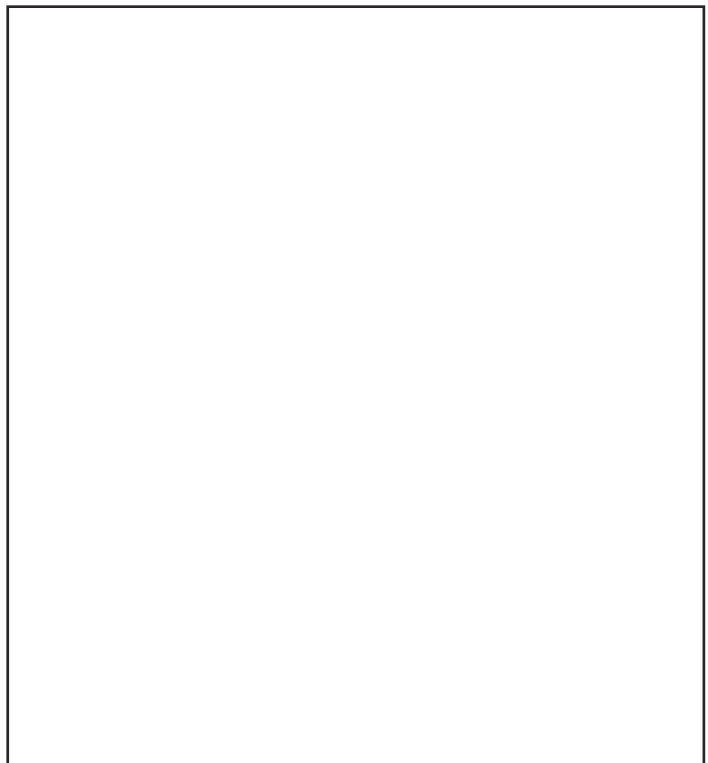
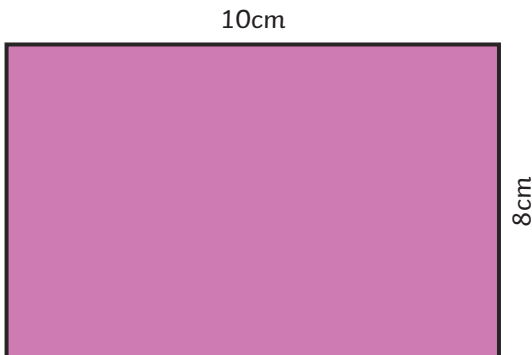
2) Leo has calculated the perimeter of this shape. Explain the mistake he has made and how he should calculate the perimeter.



The perimeter is 10cm.

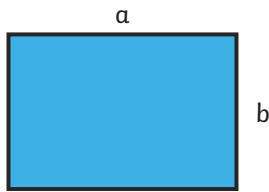


3) The perimeter of the square is the same as the perimeter of the rectangle. What is the length of the sides of the square? Show how you worked out the answer.

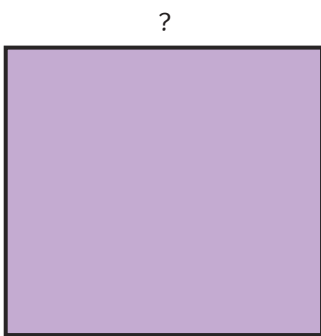




- 1) The perimeter of a rectangle is 18cm. The lengths are all whole numbers. What could the lengths of the sides a (longer side) and b (shorter side) be? Find all possibilities.



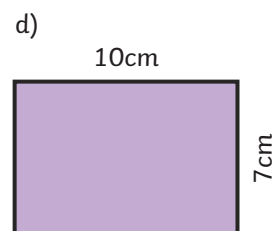
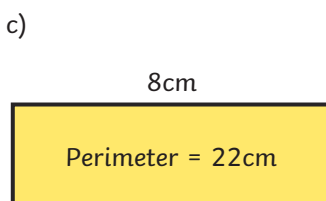
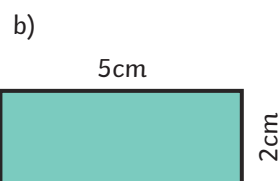
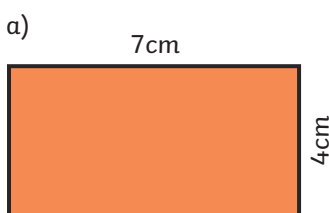
- 2) A square has a perimeter greater than 18cm and less than 60cm. The sides of the square are an odd number of centimetres. What could be the length of the sides of the square. Find all possibilities.



- 3) Here are some clues about a rectangle:

- The difference between the longer and shorter side is 3cm
- The perimeter is greater than 20cm
- The perimeter is less than 40cm

Which of these shapes could the rectangle be?



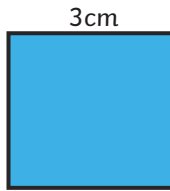
Shapes not drawn to scale.



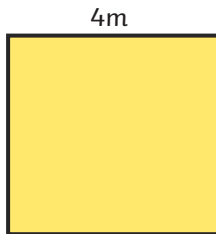
1) Calculate the perimeter of these squares:



a)

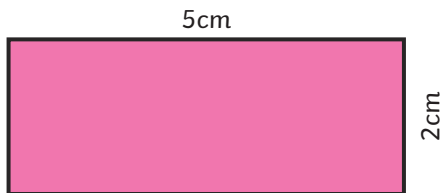


b)

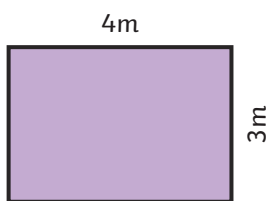


2) Calculate the perimeter of these rectangles:

a)



b)

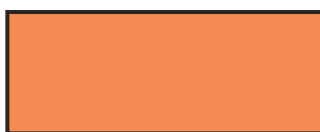


3) What is the length of each side of this square?



Perimeter = 20cm

4) What is the length of the shorter sides of this 10cm rectangle?

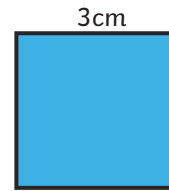


Perimeter = 28cm

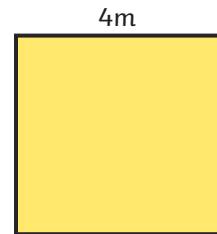
1) Calculate the perimeter of these squares:



a)

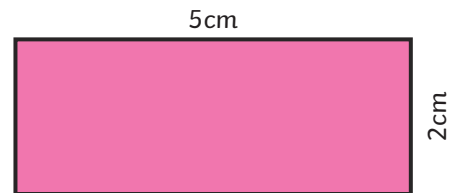


b)

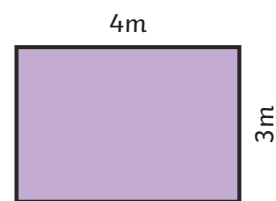


2) Calculate the perimeter of these rectangles:

a)



b)

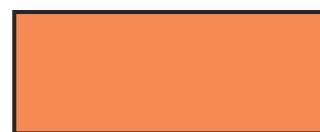


3) What is the length of each side of this square?



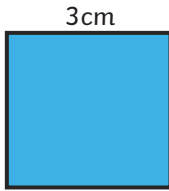
Perimeter = 20cm

4) What is the length of the shorter sides of this 10cm rectangle?



Perimeter = 28cm

- 1) Do you agree with Jade? Explain your answer.



There is not enough information to calculate the perimeter of this square.

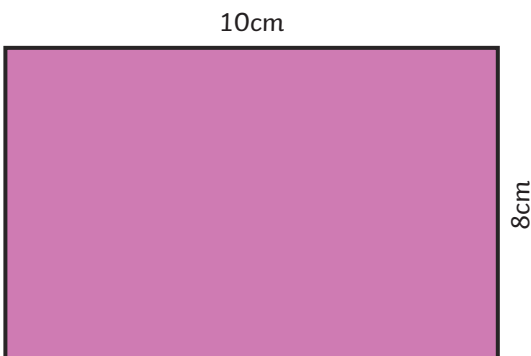


- 2) Leo has calculated the perimeter of this shape. Explain the mistake he has made and how he should calculate the perimeter.

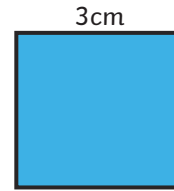


The perimeter is 10cm.

- 3) The perimeter of the square is the same as the perimeter of the rectangle. What is the length of the sides of the square? Show how you worked out the answer.



- 1) Do you agree with Jade? Explain your answer.



There is not enough information to calculate the perimeter of this square.

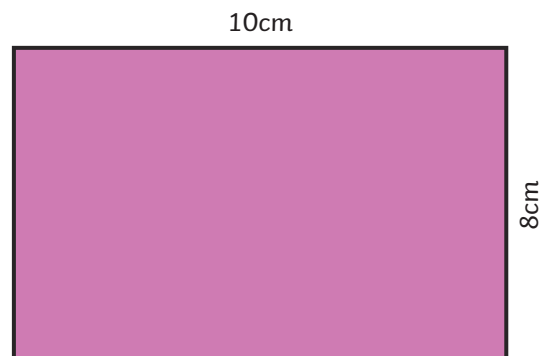
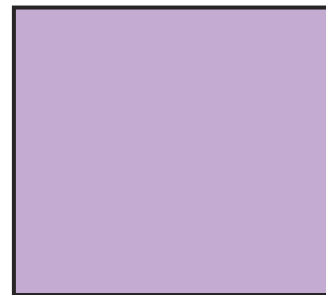


- 2) Leo has calculated the perimeter of this shape. Explain the mistake he has made and how he should calculate the perimeter.

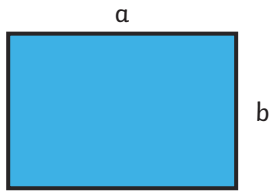


The perimeter is 10cm.

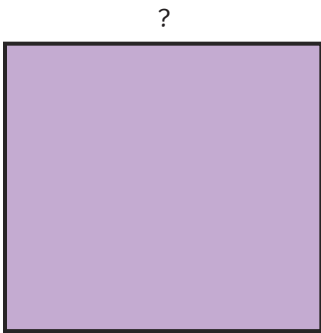
- 3) The perimeter of the square is the same as the perimeter of the rectangle. What is the length of the sides of the square? Show how you worked out the answer.



- 1) The perimeter of a rectangle is 18cm. The lengths are all whole numbers. What could the lengths of the sides a (longer side) and b (shorter side) be? Find all possibilities.



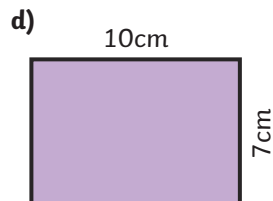
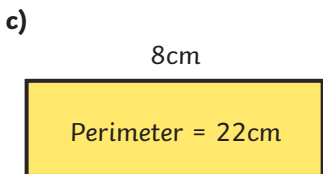
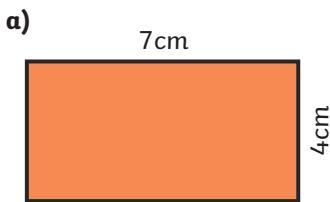
- 2) A square has a perimeter greater than 18cm and less than 60cm. The sides of the square are an odd number of centimetres. What could be the length of the sides of the square. Find all possibilities.



- 3) Here are some clues about a rectangle:

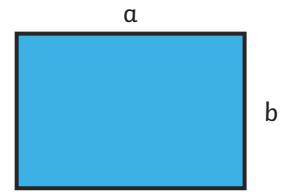
- The difference between the longer and shorter side is 3cm
- The perimeter is greater than 20cm
- The perimeter is less than 40cm

Which of these shapes could the rectangle be?

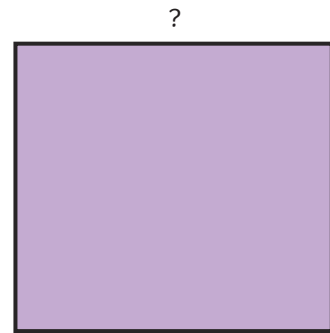


Shapes not drawn to scale.

- 1) The perimeter of a rectangle is 18cm. The lengths are all whole numbers. What could the lengths of the sides a (longer side) and b (shorter side) be? Find all possibilities.



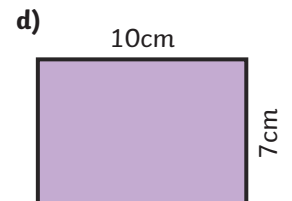
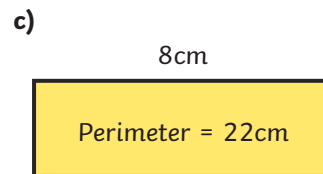
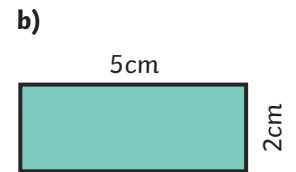
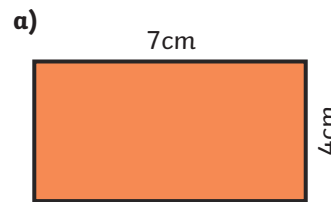
- 2) A square has a perimeter greater than 18cm and less than 60cm. The sides of the square are an odd number of centimetres. What could be the length of the sides of the square. Find all possibilities.



- 3) Here are some clues about a rectangle:

- The difference between the longer and shorter side is 3cm
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- The perimeter is less than 40cm

Which of these shapes could the rectangle be?







- 1) a) 12cm  
b) 16m
- 2) a) 14cm  
b) 14m
- 3) 5cm
- 4) 4cm



- 1) Jade is wrong. As we know that the sides of a square are equal, we only need to know the measurement of one side.  
 $3\text{cm} \times 4 = 12\text{cm}$
- 2) Leo has added together the length and width of the rectangle. To calculate the correct answer he would need to add together  $2 \times$  length and  $2 \times$  width. Another way would be to add together the length and the width and multiply this by 2. The perimeter is 20cm.
- 3) Perimeter of rectangle =  
 $10\text{cm} + 10\text{cm} + 8\text{cm} + 8\text{cm} = 36\text{cm}$   
Side of square -  $36\text{cm} \div 4 = 9\text{cm}$



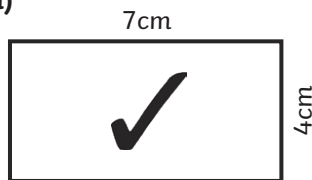
1)

a	b
8cm	1cm
7cm	2cm
6cm	3cm
5cm	4cm

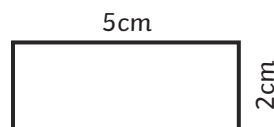
2) 5cm, 7cm, 9cm, 11cm and 13cm

3)

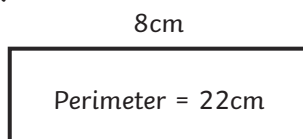
a)



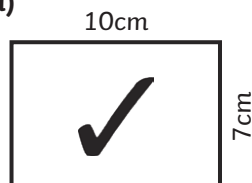
b)



c)



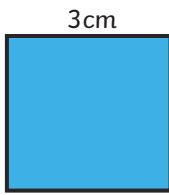
d)



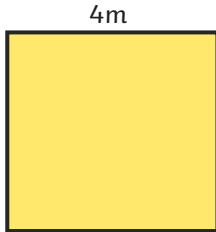


1) Calculate the perimeter of these squares:

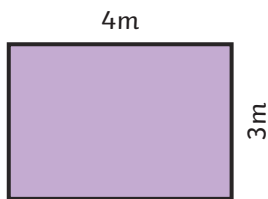
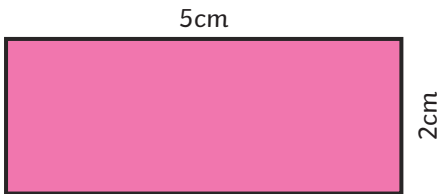
a)



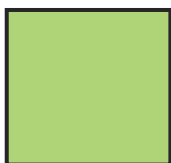
b)



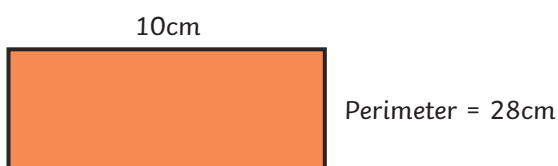
2) Calculate the perimeter of these rectangles:



3) What is the length of each side of this square?

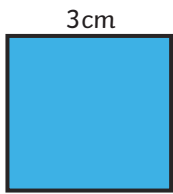


4) What is the length of the shorter sides of this rectangle?

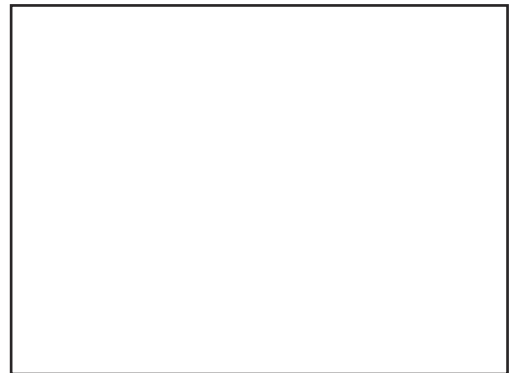




1) Do you agree with Jade? Explain your answer.



There is not enough information to calculate the perimeter of this square.



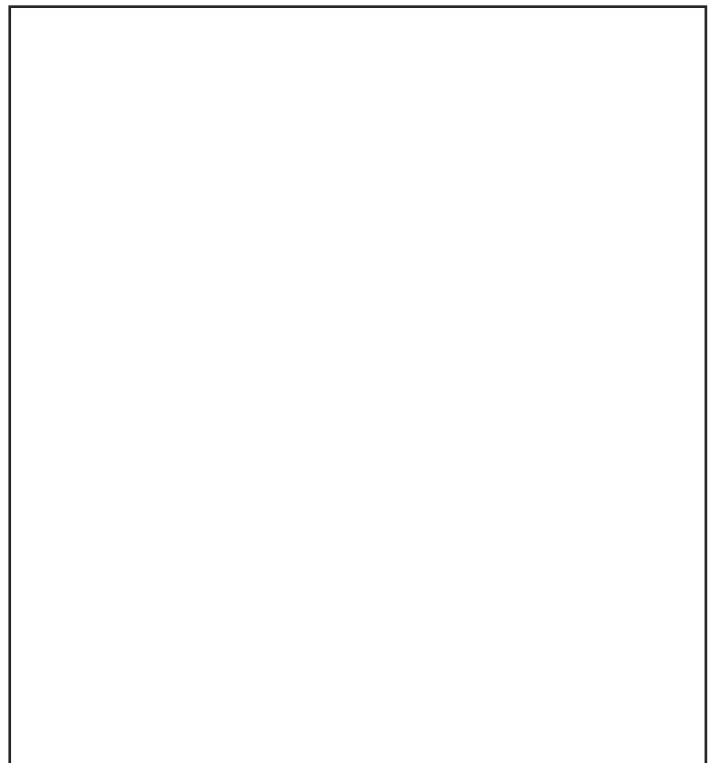
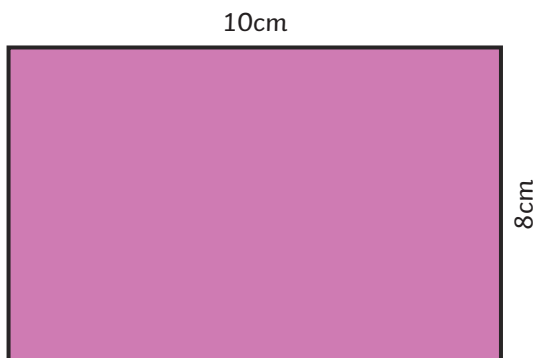
2) Leo has calculated the perimeter of this shape. Explain the mistake he has made and how he should calculate the perimeter.



The perimeter is 10cm.

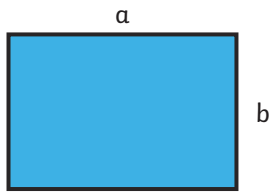


3) The perimeter of the square is the same as the perimeter of the rectangle. What is the length of the sides of the square? Show how you worked out the answer.

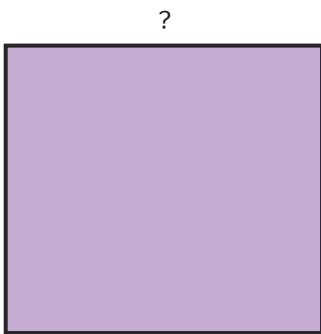




- 1) The perimeter of a rectangle is 18cm. The lengths are all whole numbers. What could the lengths of the sides a (longer side) and b (shorter side) be? Find all possibilities.



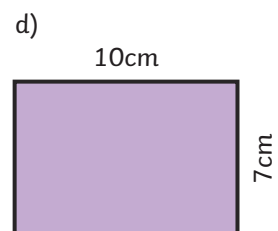
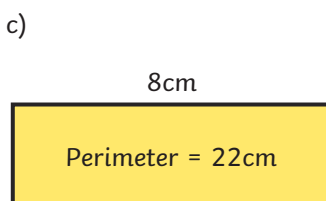
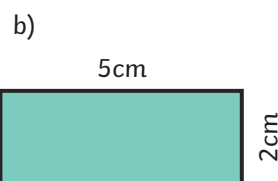
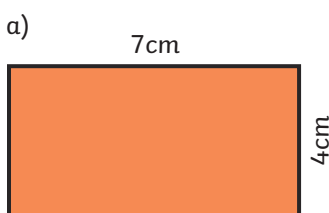
- 2) A square has a perimeter greater than 18cm and less than 60cm. The sides of the square are an odd number of centimetres. What could be the length of the sides of the square. Find all possibilities.



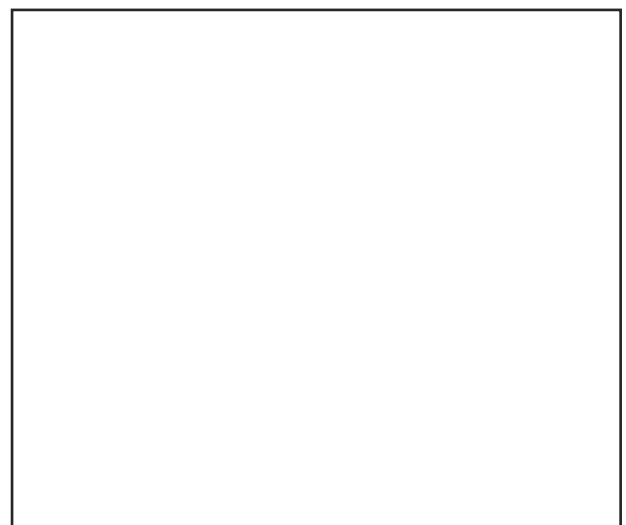
- 3) Here are some clues about a rectangle:

- The difference between the longer and shorter side is 3cm
- The perimeter is greater than 20cm
- The perimeter is less than 40cm

Which of these shapes could the rectangle be?



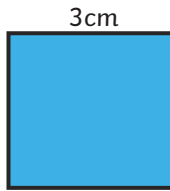
Shapes not drawn to scale.



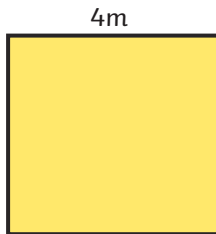
1) Calculate the perimeter of these squares:



a)

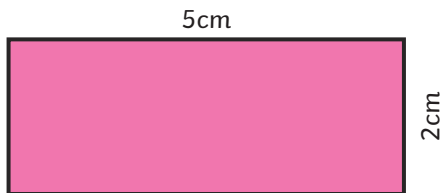


b)

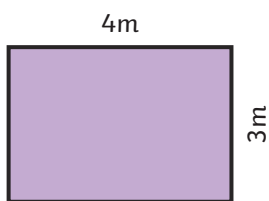


2) Calculate the perimeter of these rectangles:

a)



b)

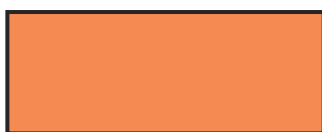


3) What is the length of each side of this square?



Perimeter = 20cm

4) What is the length of the shorter sides of this 10cm rectangle?

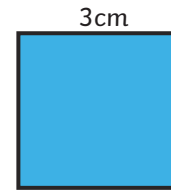


Perimeter = 28cm

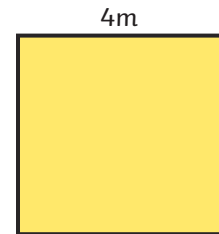
1) Calculate the perimeter of these squares:



a)

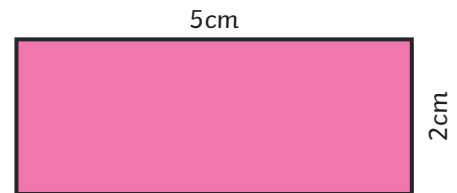


b)

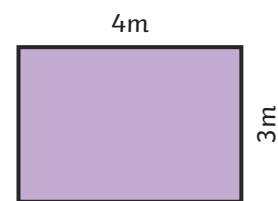


2) Calculate the perimeter of these rectangles:

a)



b)

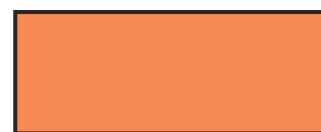


3) What is the length of each side of this square?



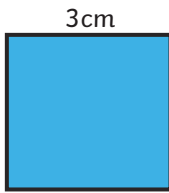
Perimeter = 20cm

4) What is the length of the shorter sides of this 10cm rectangle?



Perimeter = 28cm

1) Do you agree with Jade? Explain your answer.



There is not enough information to calculate the perimeter of this square.

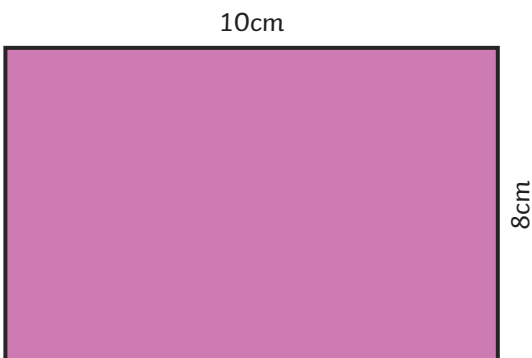


2) Leo has calculated the perimeter of this shape. Explain the mistake he has made and how he should calculate the perimeter.

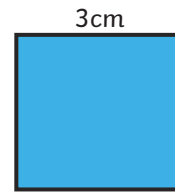


The perimeter is 10cm.

3) The perimeter of the square is the same as the perimeter of the rectangle. What is the length of the sides of the square? Show how you worked out the answer.



1) Do you agree with Jade? Explain your answer.



There is not enough information to calculate the perimeter of this square.

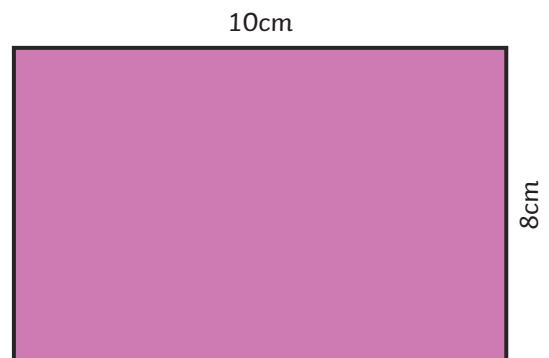
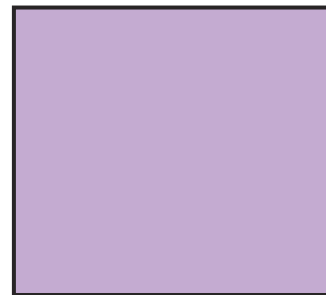


2) Leo has calculated the perimeter of this shape. Explain the mistake he has made and how he should calculate the perimeter.

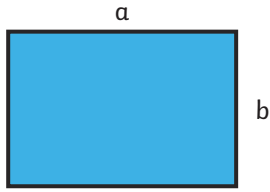


The perimeter is 10cm.

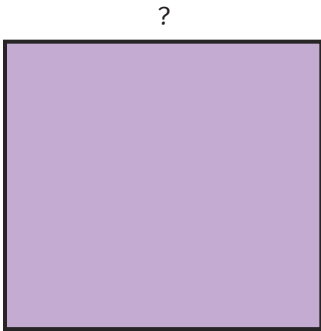
3) The perimeter of the square is the same as the perimeter of the rectangle. What is the length of the sides of the square? Show how you worked out the answer.



- 1) The perimeter of a rectangle is 18cm. The lengths are all whole numbers. What could the lengths of the sides a (longer side) and b (shorter side) be? Find all possibilities.



- 2) A square has a perimeter greater than 18cm and less than 60cm. The sides of the square are an odd number of centimetres. What could be the length of the sides of the square. Find all possibilities.



- 3) Here are some clues about a rectangle:

- The difference between the longer and shorter side is 3cm
- The perimeter is greater than 20cm
- The perimeter is less than 40cm

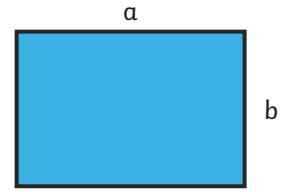
Which of these shapes could the rectangle be?

a) b)

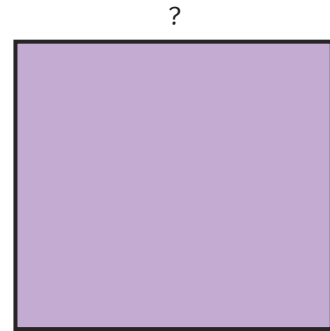
c) d)

Shapes not drawn to scale.

- 1) The perimeter of a rectangle is 18cm. The lengths are all whole numbers. What could the lengths of the sides a (longer side) and b (shorter side) be? Find all possibilities.



- 2) A square has a perimeter greater than 18cm and less than 60cm. The sides of the square are an odd number of centimetres. What could be the length of the sides of the square. Find all possibilities.



- 3) Here are some clues about a rectangle:

- The difference between the longer and shorter side is 3cm
- The perimeter is greater than 20cm
- The perimeter is less than 40cm

Which of these shapes could the rectangle be?

a) b)

c) d)

Shapes not drawn to scale.

