Class 3 Home Learning, week beginning 8th June 2020

Maths - Year 4

Summer Term, Week 4 (w/c 11th May)

Lesson 2

Perimeter of rectangles

Please watch the video before starting the questions.

I have not divided this work into challenges. Please work your way through the questions and do as many as you can. The answers are included in this document.

I have also included some reasoning and problem solving and a hands on activity.
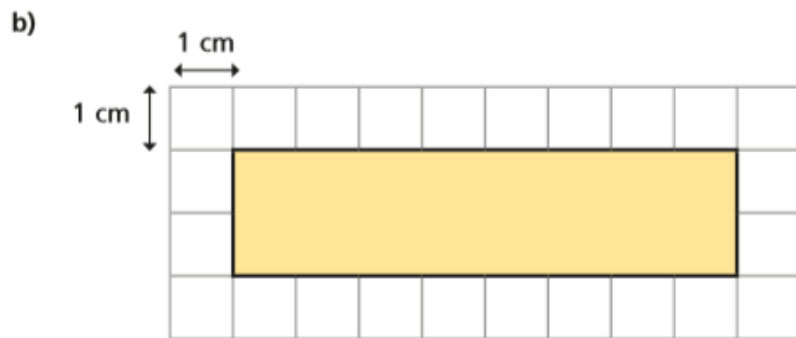
Can I calculate the perimeter of rectangles? (Y4)

These pages do not need to be printed out. Please write the short date you do the work and the above question in your maths book, underlining them neatly with a ruler.
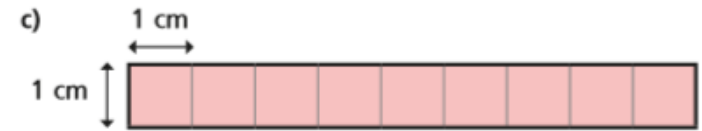
1 Work out the perimeter of each rectangle.

a)

1 cm

1 cm

☐ cm + ☐ cm + ☐ cm + ☐ cm = ☐ cm

b)

1 cm

1 cm

☐ cm + ☐ cm + ☐ cm + ☐ cm = ☐ cm

c)

1 cm
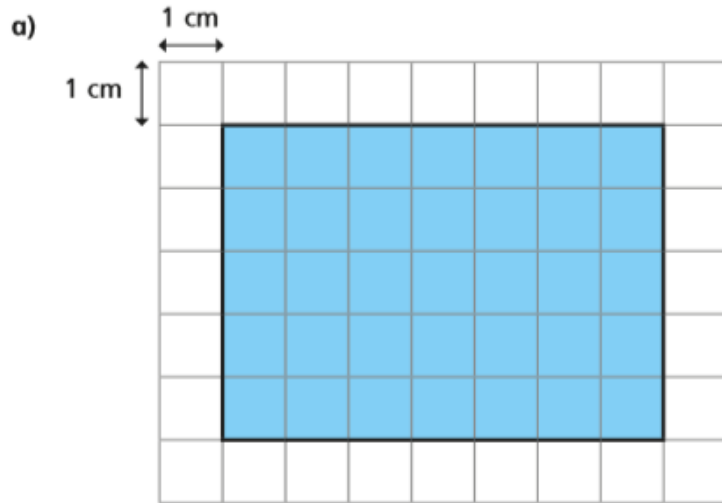
1 cm

☐ cm + ☐ cm + ☐ cm + ☐ cm = ☐ cm

2 Work out the perimeter of the rectangles.
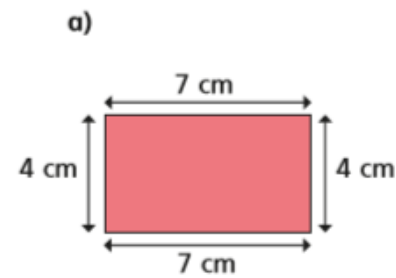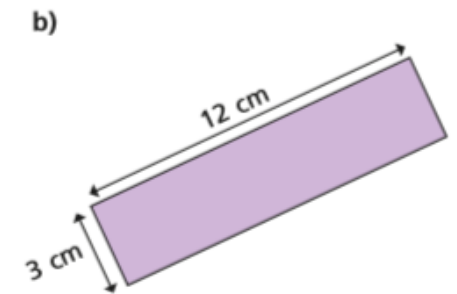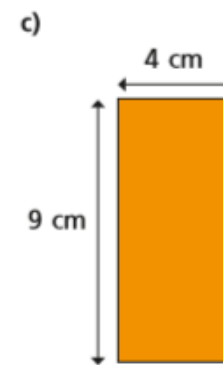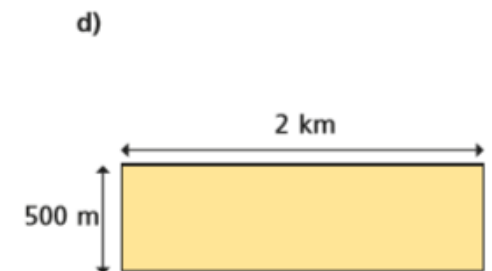
a)

7 cm

4 cm   4 cm

7 cm

☐

b)

12 cm

3 cm

☐

c)

4 cm

9 cm

☐

d)

2 km

500 m

☐

3 Tommy is working out the perimeter of some rectangles.

8 cm

5 cm

8 cm + 5 cm = 13 cm
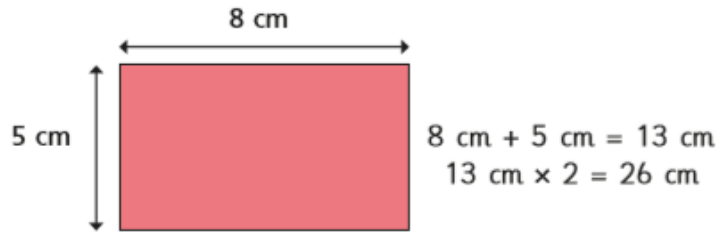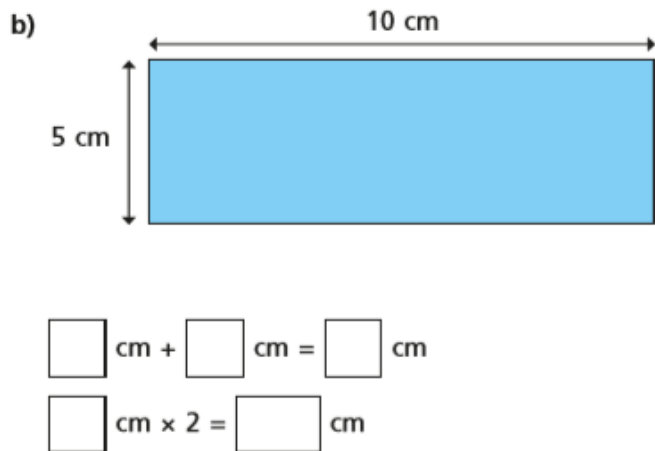13 cm × 2 = 26 cm

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

a)

5 cm

4 cm

[ ] cm + [ ] cm = [ ] cm

[ ] cm × 2 = [ ] cm

b)

10 cm

5 cm

[ ] cm + [ ] cm = [ ] cm

[ ] cm × 2 = [ ] cm
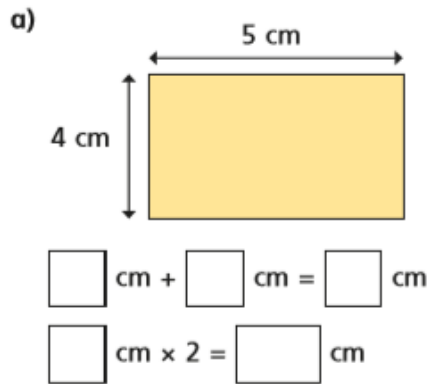
4 Each lolly stick is 8 cm long.

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)

10 cm

[ ] cm

c)

5 cm

[ ] cm

b)

9 cm

[ ] cm

What do you notice?

Find any other rectangles that have the same perimeter.

ANSWERS

1 Work out the perimeter of each rectangle.

a)

1 cm

1 cm

$\boxed{5}$ cm + $\boxed{7}$ cm + $\boxed{5}$ cm + $\boxed{7}$ cm = $\boxed{24}$ cm
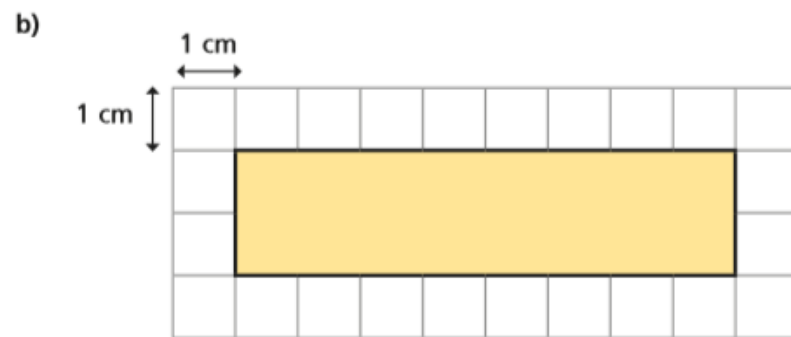
b)

1 cm

1 cm

$\boxed{2}$ cm + $\boxed{8}$ cm + $\boxed{2}$ cm + $\boxed{8}$ cm = $\boxed{20}$ cm

c)

1 cm

1 cm

$\boxed{1}$ cm + $\boxed{9}$ cm + $\boxed{1}$ cm + $\boxed{9}$ cm = $\boxed{20}$ cm

2 Work out the perimeter of the rectangles.
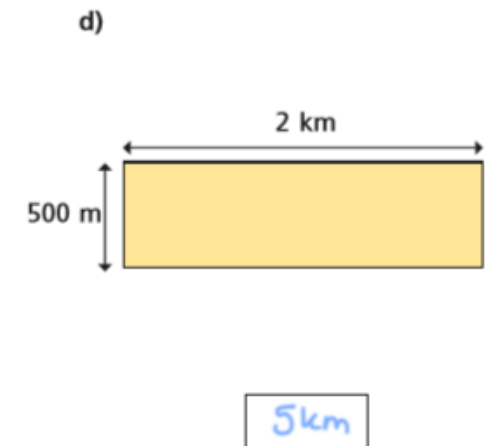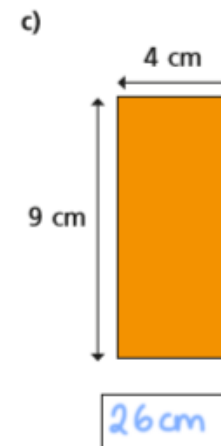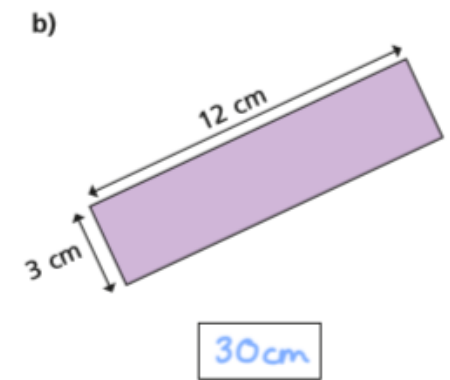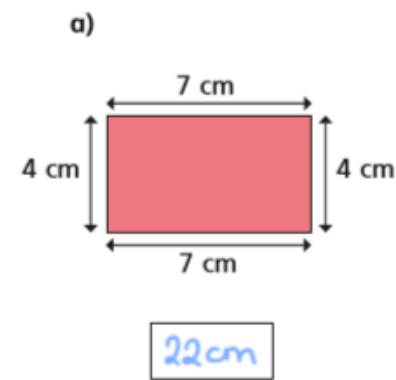
a)

7 cm

4 cm   4 cm

7 cm

$\boxed{22cm}$

b)

12 cm

3 cm

$\boxed{30cm}$

c)

4 cm

9 cm

$\boxed{26cm}$

d)

2 km

500 m

$\boxed{5km}$

3 Tommy is working out the perimeter of some rectangles.

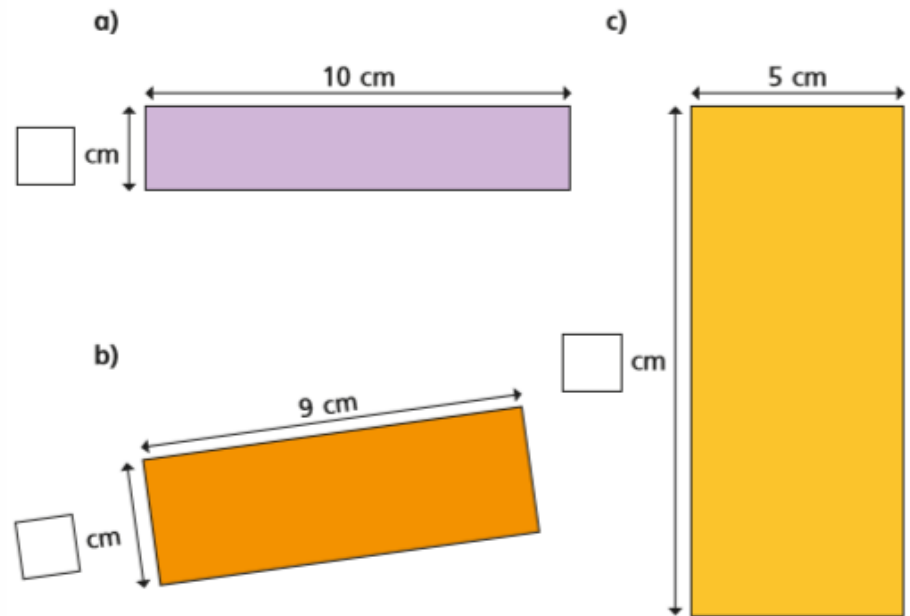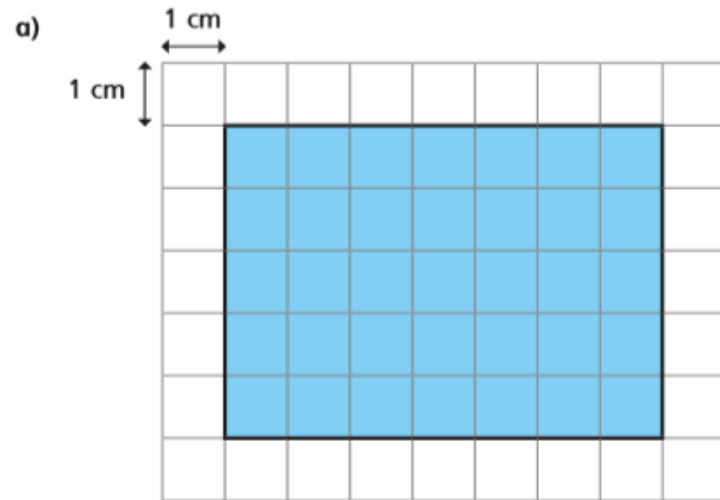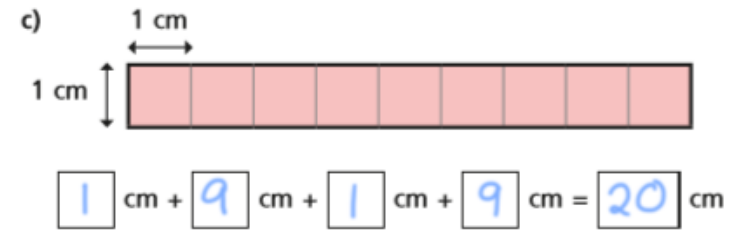8 cm

5 cm

8 cm + 5 cm = 13 cm
13 cm × 2 = 26 cm

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

a)

5 cm

4 cm
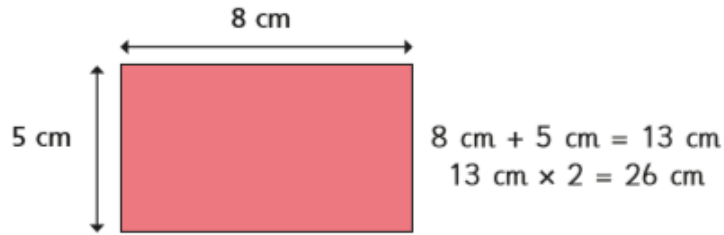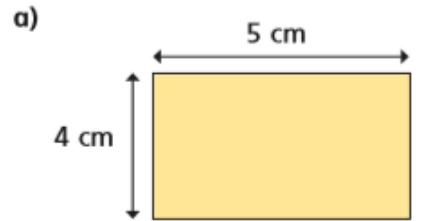
$\boxed{5}$ cm + $\boxed{4}$ cm = $\boxed{9}$ cm

$\boxed{9}$ cm × 2 = $\boxed{18}$ cm

b)

10 cm

5 cm
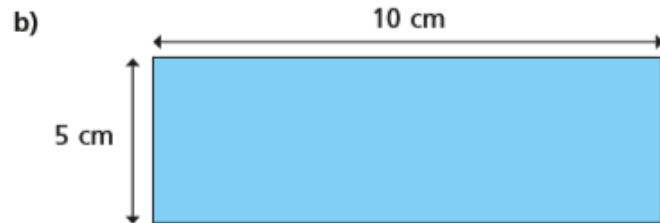
$\boxed{10}$ cm + $\boxed{5}$ cm = $\boxed{15}$ cm

$\boxed{15}$ cm × 2 = $\boxed{30}$ cm

4 Each lolly stick is 8 cm long.

Find the perimeter of the shape.
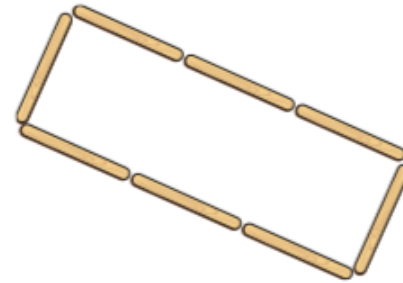
$\boxed{64cm}$

5 Each of these rectangles has a perimeter of 24 cm.

Work out the missing lengths and label the diagrams.

a)

10 cm

$\boxed{2}$ cm

c)

5 cm

$\boxed{7}$ cm

b)

9 cm

$\boxed{3}$ cm

What do you notice?

Find any other rectangles that have the same perimeter.

Reasoning and problem solving

1) The width of a rectangle is 2 metres less than the length.
The perimeter of the rectangle is between 20 m and 30 m.
What could the dimensions of the rectangle be?
Draw all the rectangles that fit these rules.
Use 1 cm = 1 m.

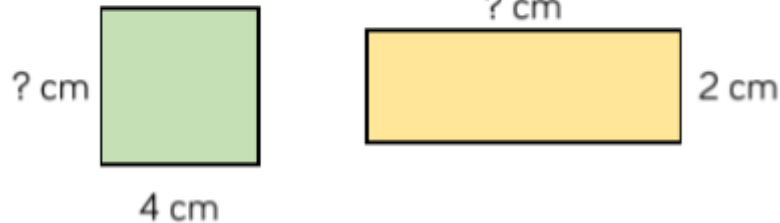2) Each of the shapes have a perimeter of 16 cm.
Calculate the lengths of the missing sides.

? cm

? cm

4 cm

? cm

2 cm

3) **Always, Sometimes, Never**
When all the sides of a rectangle are odd numbers, the perimeter is even.
Prove it.

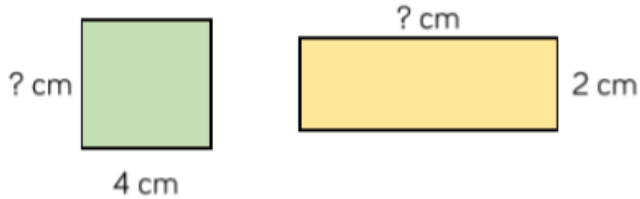4) Here is a square. Each of the sides is a whole number of metres.

Which of these lengths could be the perimeter of the shape?
24 m, 34 m, 44 m, 54 m, 64 m, 74 m

Why could the other values not be the perimeter?

Answers are on the next page.

Reasoning and problem solving - ANSWERS

The width of a rectangle is 2 metres less than the length.

The perimeter of the rectangle is between 20 m and 30 m.

What could the dimensions of the rectangle be?

Draw all the rectangles that fit these rules.

Use 1 cm = 1 m.

If the perimeter is:

20 m

Length = 6 m

Width = 4 m

24 m

Length = 7 m

Width = 5 m

28 m

Length = 8 m

Width = 6 m

Each of the shapes have a perimeter of 16 cm.

Calculate the lengths of the missing sides.

? cm

? cm

4 cm

? cm

2 cm

4 cm

6 cm

Always, Sometimes, Never

When all the sides of a rectangle are odd numbers, the perimeter is even.

Prove it.

Always because when adding an odd and an odd they always equal an even number.

Here is a square. Each of the sides is a whole number of metres.

Which of these lengths could be the perimeter of the shape?

24 m, 34 m, 44 m, 54 m, 64 m, 74 m

Why could the other values not be the perimeter?

24 cm

Sides = 6 cm

44 cm

Sides = 11 cm

64 cm

Sides = 16 cm

They are not divisible by 4

This page does not need to be printed out. Please write the short date you do the work and the above question in your maths book, underlining them neatly with a ruler.

Your challenge

Measure the perimeter of different things around your house.

Keeping in mind that perimeter is a path that surrounds a two-dimensional (2D) shape, you could measure things like the perimeter of your table (if it's a square or rectangle), the perimeter of your bedroom, or the perimeter of your garden.

What else can you think of?

Please remember to write what you are measuring and your calculations in your maths book.