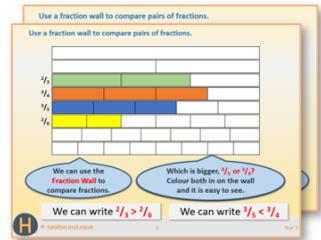


# Week 11, Day 3

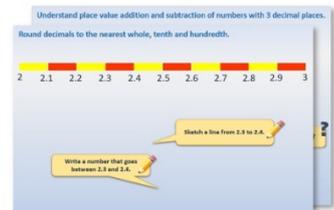
## Find the perimeter of rectangles

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.



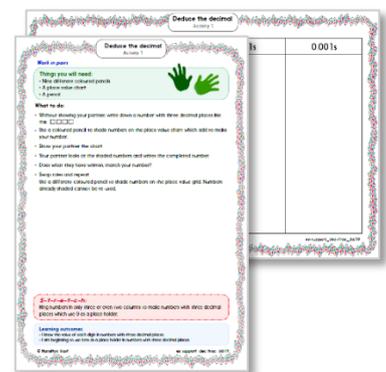
OR start by carefully reading through the **Learning Reminders**.



2. Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



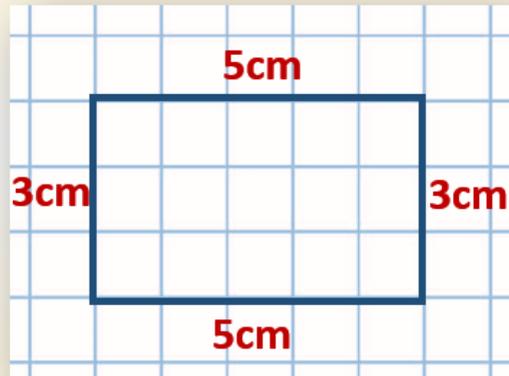
3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**



4. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the **Investigation**...

## Learning Reminders

Find the perimeter of rectangles.



We call the distance round the outside of a shape its **perimeter**.

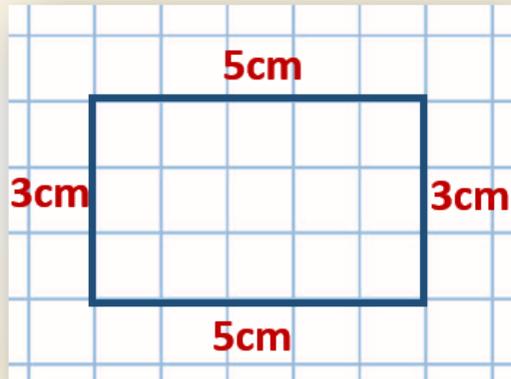
This rectangle is 3cm wide and 5cm long.

We know opposite sides of the rectangle are the same length.

If we found  $5 + 3 + 5 + 3$  it would give us the perimeter of the rectangle but there is a quicker way...

## Learning Reminders

Find the perimeter of rectangles.



We can **double the width** and then **double the length** and **add the two together** to find the perimeter, *or* **add the width and the length** and then **double the total**.

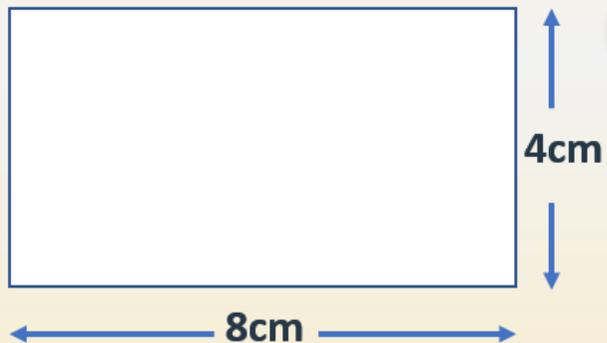
$$(5\text{cm} \times 2) + (3\text{cm} \times 2) = 16\text{cm}$$

*or*

$$(5\text{cm} + 3\text{cm}) \times 2 = 16\text{cm}$$

## Learning Reminders

Find the perimeter of rectangles.



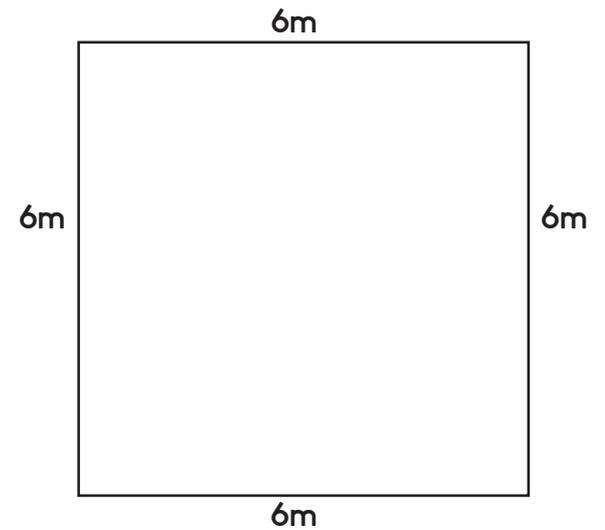
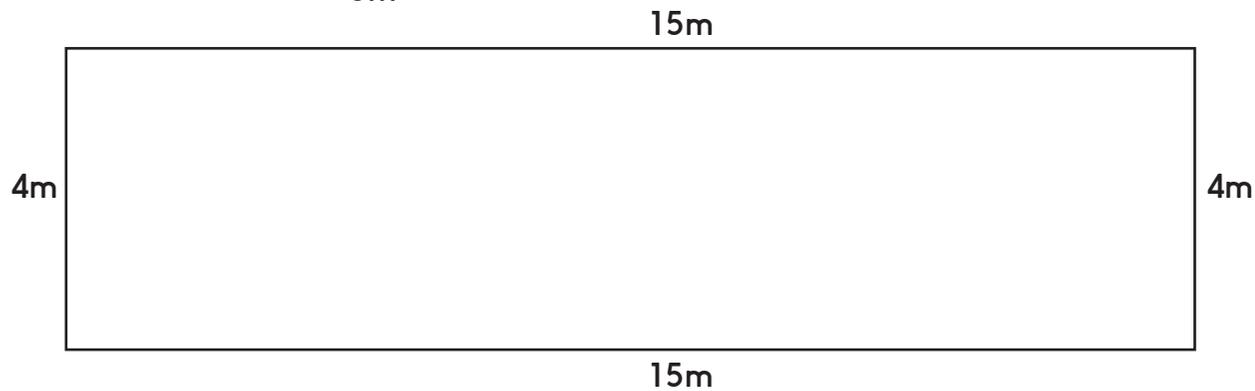
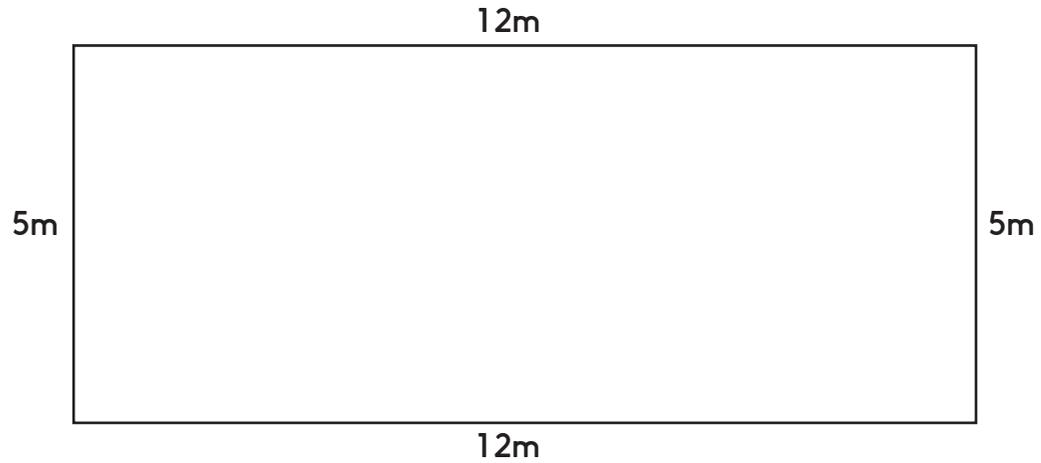
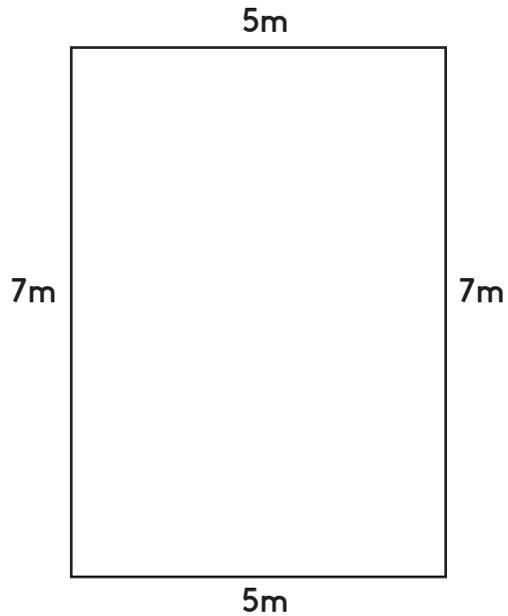
Try both strategies to find the perimeter of this rectangle. Either add 4 and 8 then double or double each number then add.

**Check that the answer is 24cm.**

## Practice Sheet Mild

### Perimeter of rectangles

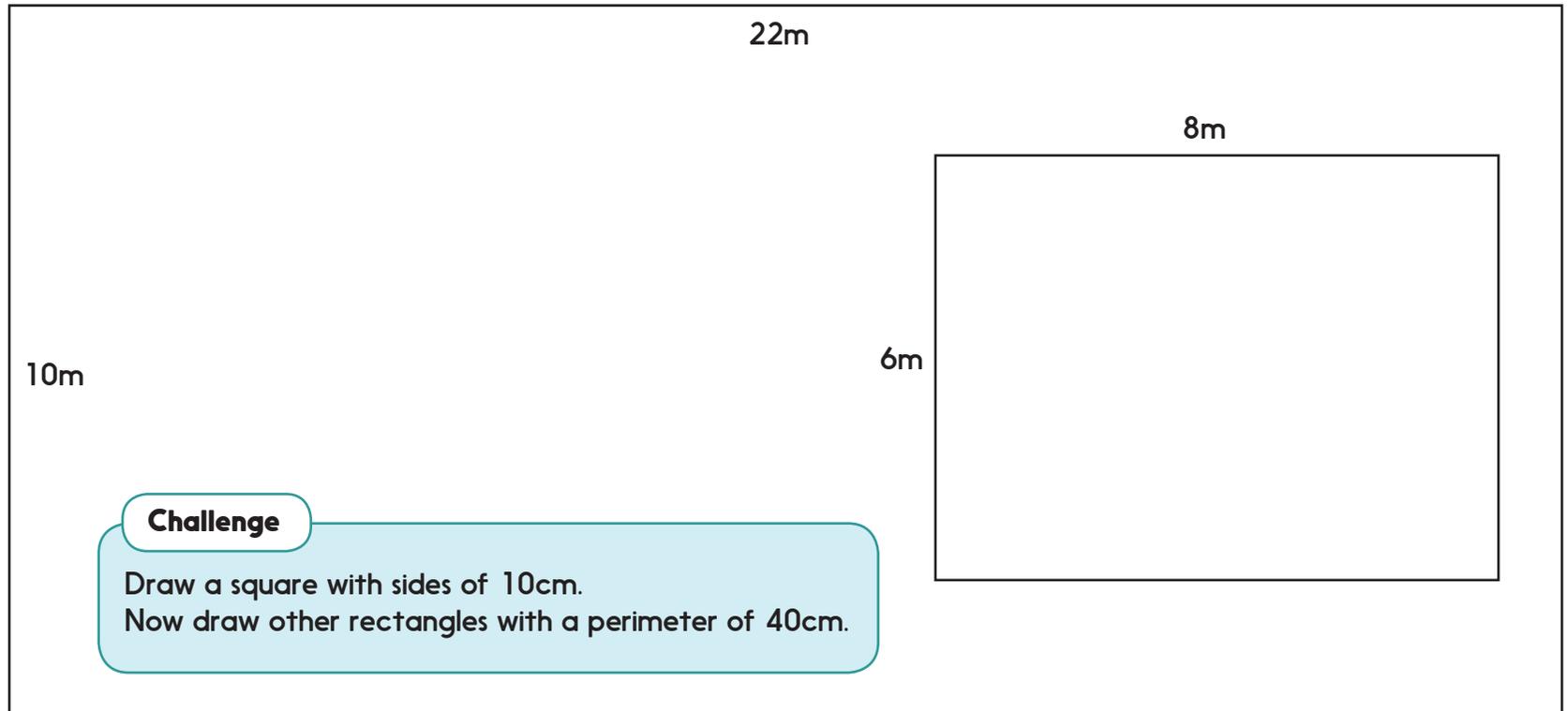
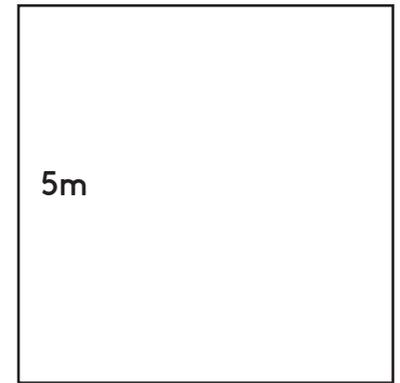
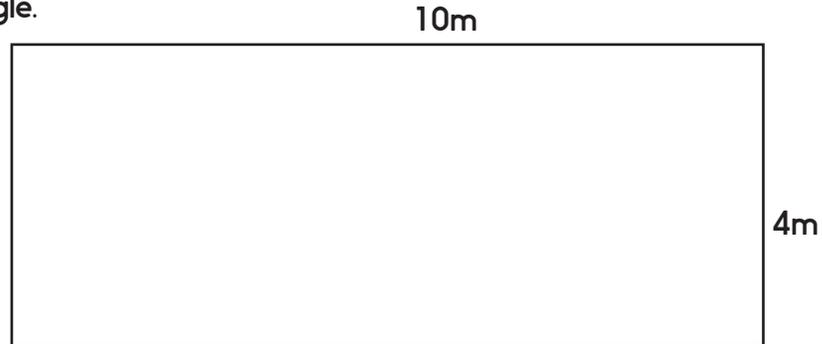
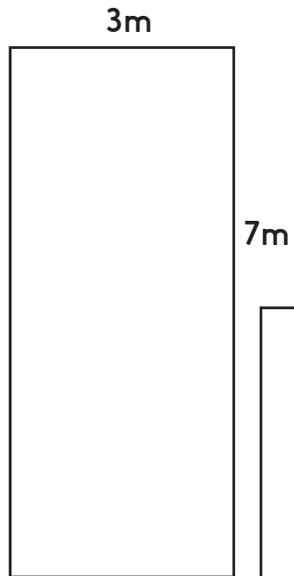
Calculate the perimeter of each rectangle.



## Practice Sheet Hot

### Perimeter of rectangles

Calculate the perimeter of each rectangle.



#### Challenge

Draw a square with sides of 10cm.  
Now draw other rectangles with a perimeter of 40cm.

## Practice Sheets Answers

### Perimeter of rectangles (mild)

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

$$12\text{m} + 5\text{m} + 12\text{m} + 5\text{m} = 34\text{m}$$

$$15\text{m} + 4\text{m} + 15\text{m} + 4\text{m} = 38\text{m}$$

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

### Perimeter of rectangles (hot)

$$7\text{m} + 3\text{m} + 7\text{m} + 3\text{m} = 20\text{m}$$

$$10\text{m} + 4\text{m} + 10\text{m} + 4\text{m} = 28\text{m}$$

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

$$22\text{m} + 10\text{m} + 22\text{m} + 10\text{m} = 64\text{m}$$

$$8\text{m} + 6\text{m} + 8\text{m} + 6\text{m} = 28\text{m}$$

### Challenge

Rectangles with a perimeter of 40cm will have a longer and shorter side that add to 20cm (so doubling to 40cm).

Whole number answers include all the pairs to 20, i.e. 19cm + 1cm, 18 + 2, 17 + 3 etc.

Children may also give one of many solutions that do not use whole numbers. As long as the pair adds to 20, these are correct, e.g. 10.5cm + 9.5cm, 15.1 + 4.9, 13.75 + 6.25 etc.

## A Bit Stuck? Maths on the edge

*Work in pairs*

### Things you will need:

- A pencil
- Lots of  $\text{cm}^2$  paper



### What to do:

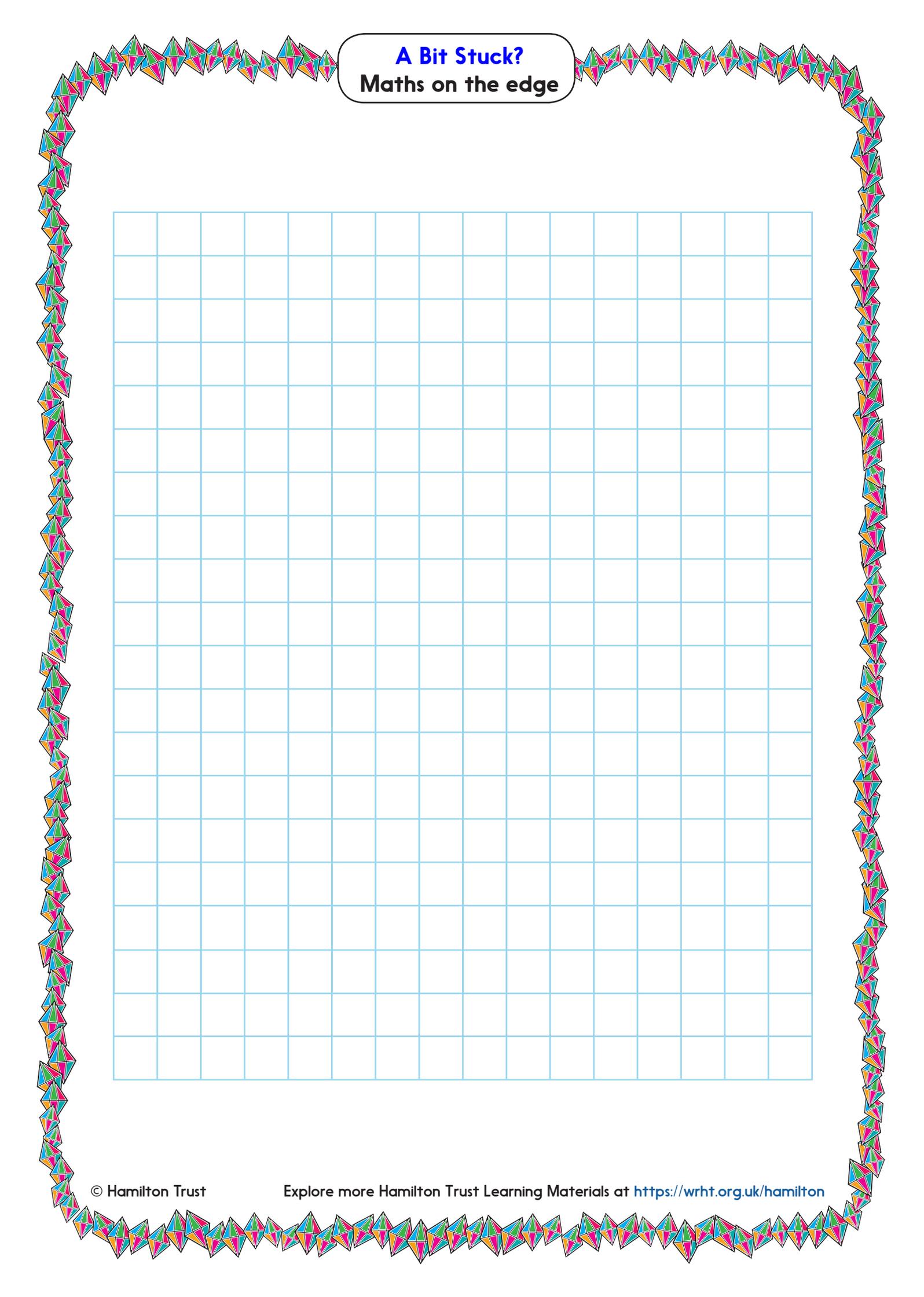
- Take it in turns to draw a rectangle on squared paper, making sure that each side is a whole number of centimetres. At least one side must be longer than 10cm.
- Find the lengths of two different sides.
- One person adds these two sides, then doubles the answer to find the perimeter.
- The other person adds the four sides together to find the perimeter.
- Check that you both get the same answer.
- Once agreed, write the perimeter by the rectangle.
- Swap roles and repeat.

### *S-t-r-e-t-c-h:*

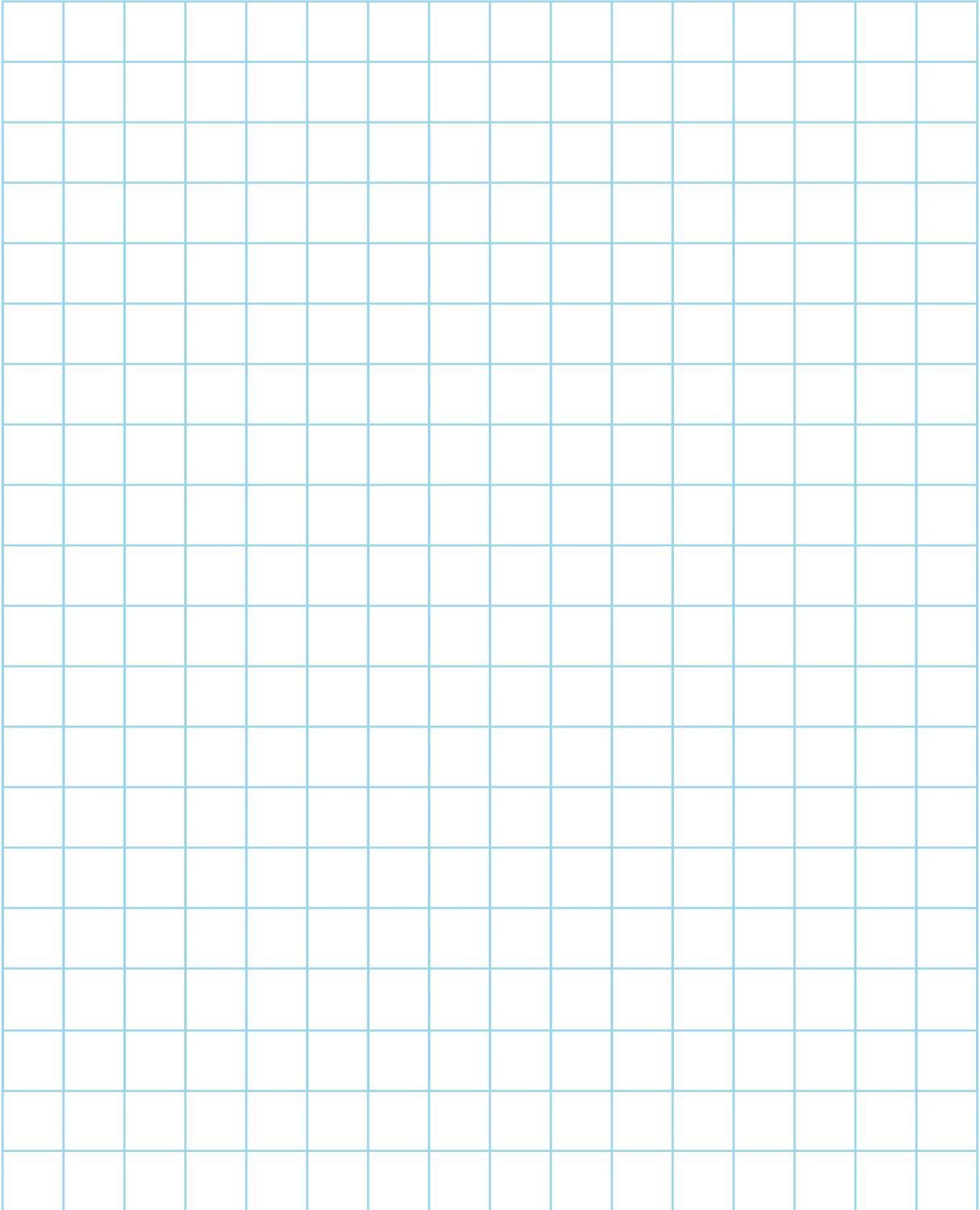
Try and draw a rectangle with a perimeter of 14cm.

### Learning outcomes:

- I can find the perimeter of a rectangle by finding the total of all four sides.
- I can add and double 2-digit numbers.
- I am beginning to find the perimeter by doubling the total of two adjacent sides.

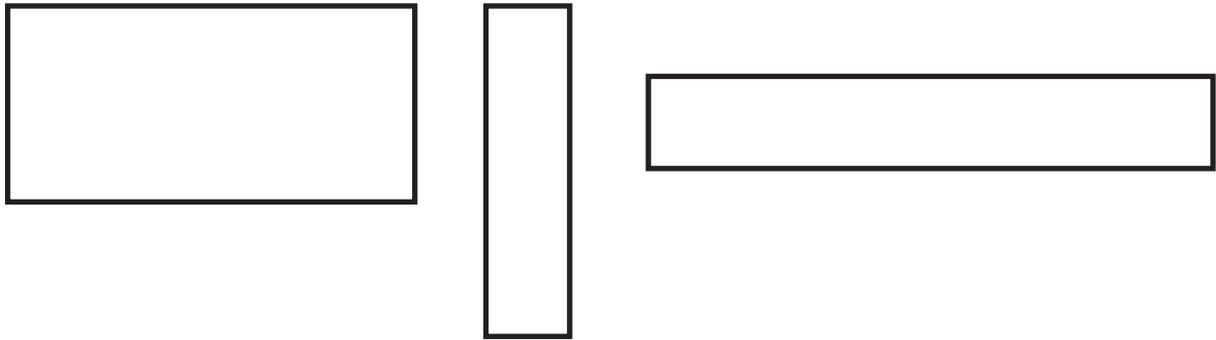


**A Bit Stuck?**  
**Maths on the edge**



## Investigation

### Rectangle perimeters



- Draw at least 6 rectangles on  $\text{cm}^2$  paper, with each side a whole number of centimetres.
- Label each rectangle with a letter. 
- Estimate which rectangle might have the shortest perimeter and which might have the longest, recording their letters in order. e.g. **B C A F D E**
- Now find the perimeter of each and write it inside each rectangle.
- Which doubling strategy did you use to find the perimeter?
- Were your estimates for the shortest and longest perimeters correct?
- Choose one of your rectangles. Now try to draw another that has a **different** length and width but the **same perimeter**.

#### Challenge

Draw as many rectangles as you can with a perimeter of 24cm, each side a whole number of centimetres.

# Investigation

## Rectangle perimeters

