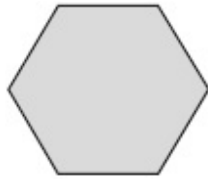**1** These two shapes have the **same** perimeter.

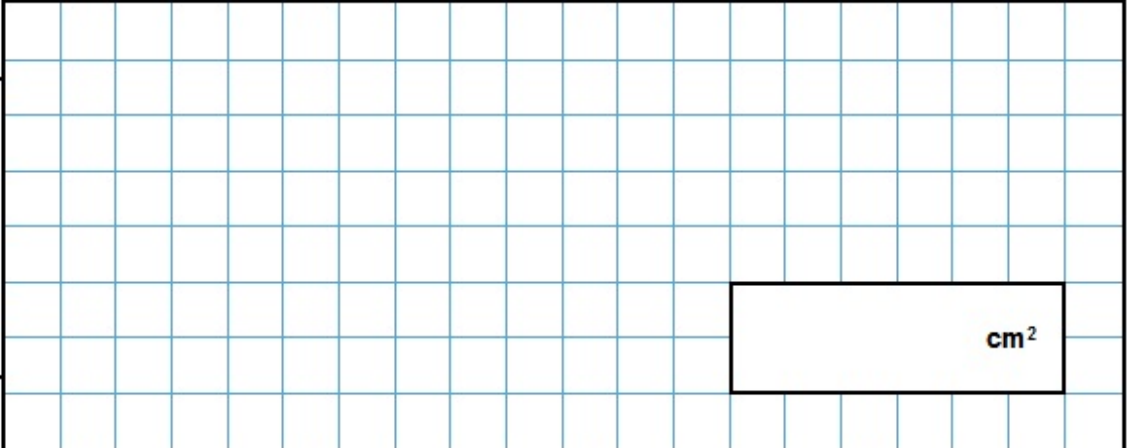regular hexagon   square

Not actual size

The length of each side of the **hexagon** is **8** centimetres.

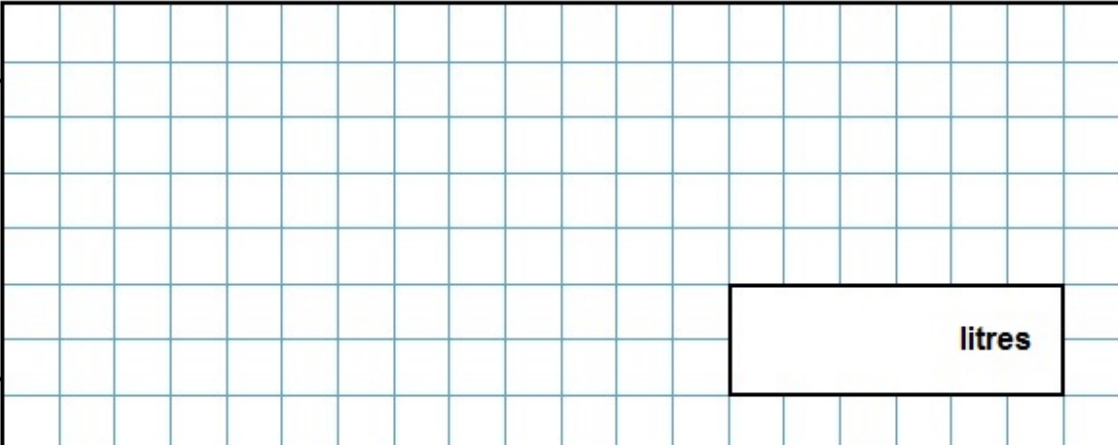Calculate the **area** of the **square**.

Show your method

cm²

2 marks

2 A machine pours 250 millilitres of juice every 4 seconds.

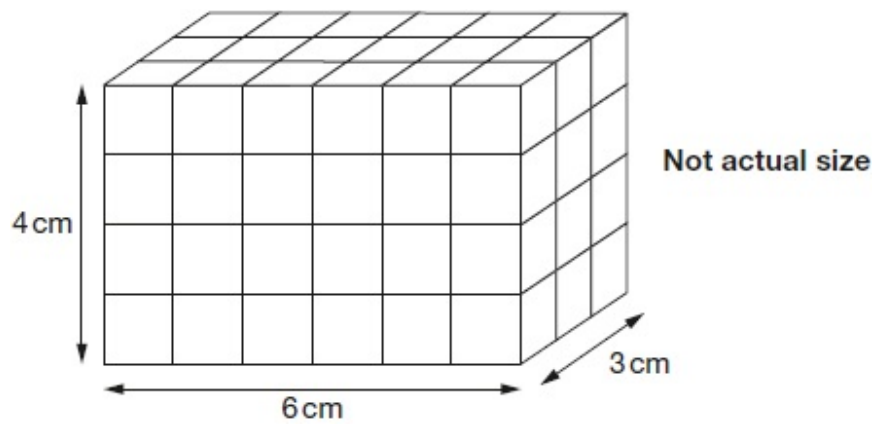How many **litres** of juice does the machine pour every **minute**?

Show your method

litres

2 marks

3 Amina made this cuboid using centimetre cubes.

Not actual size

4 cm

6 cm

3 cm

Stefan makes a cuboid that is 5 cm longer, 5 cm taller and 5 cm wider than Amina's cuboid.

What is the **difference** between the number of cubes in Amina's and Stefan's cuboids?
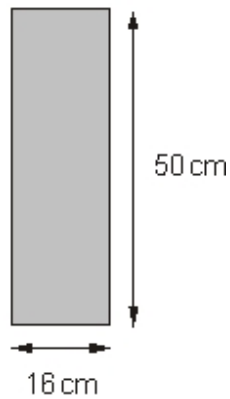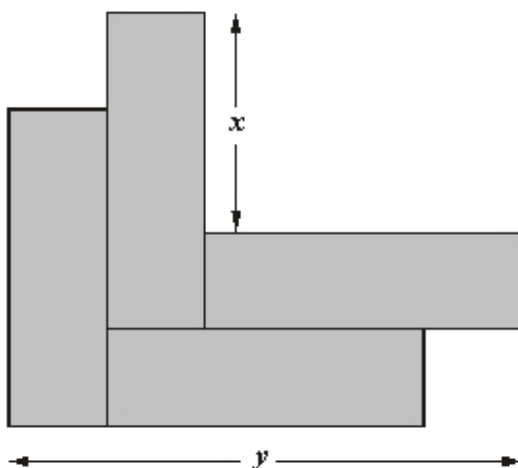
Show your method

cubes

2 marks

4 Kate has some rectangles.

They each measure 16 centimetres by 50 centimetres.

50 cm

16 cm

Not actual size

She makes this design with four of the rectangles.

x

y

Work out the lengths x and y.

$x =$ _____ **cm**

1 mark

$y =$ _____ **cm**

1 mark

5 Six identical right-angled triangles are arranged to make a rectangle.

Not actual size

7 cm

? cm
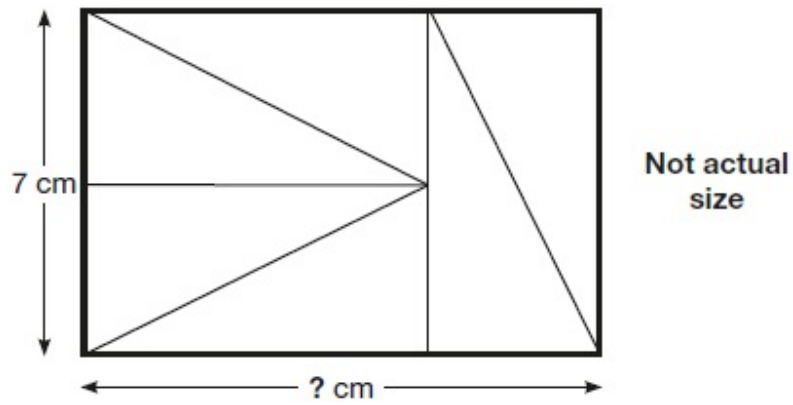
Calculate the **length** of the rectangle.

cm

1 mark

6 A 5p coin has a diameter of 1.8 centimetres.

1.8 cm

Holly makes a straight line of 5p coins worth £10

£10

How long is Holly's line?
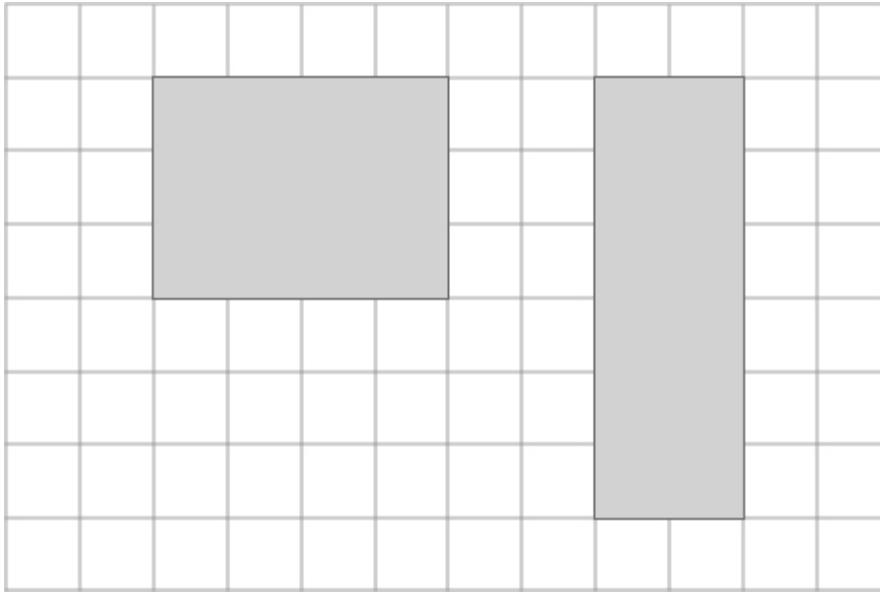Give your answer in **metres**.

Show your method

metres

2 marks

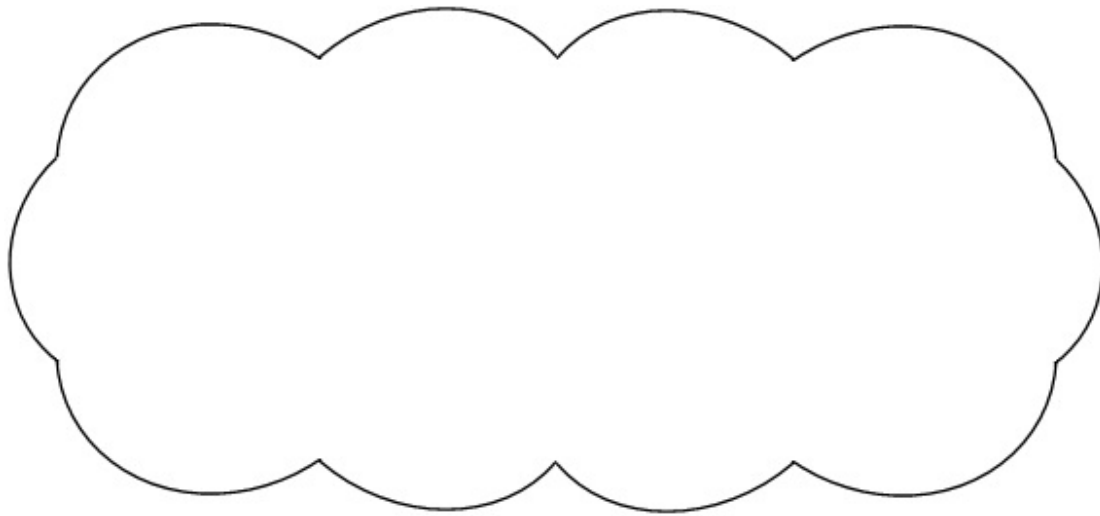**7** Look at the shaded rectangles drawn on a centimetre square grid.

Sam says,

"The two rectangles have the same area as each other and the same perimeter as each other"
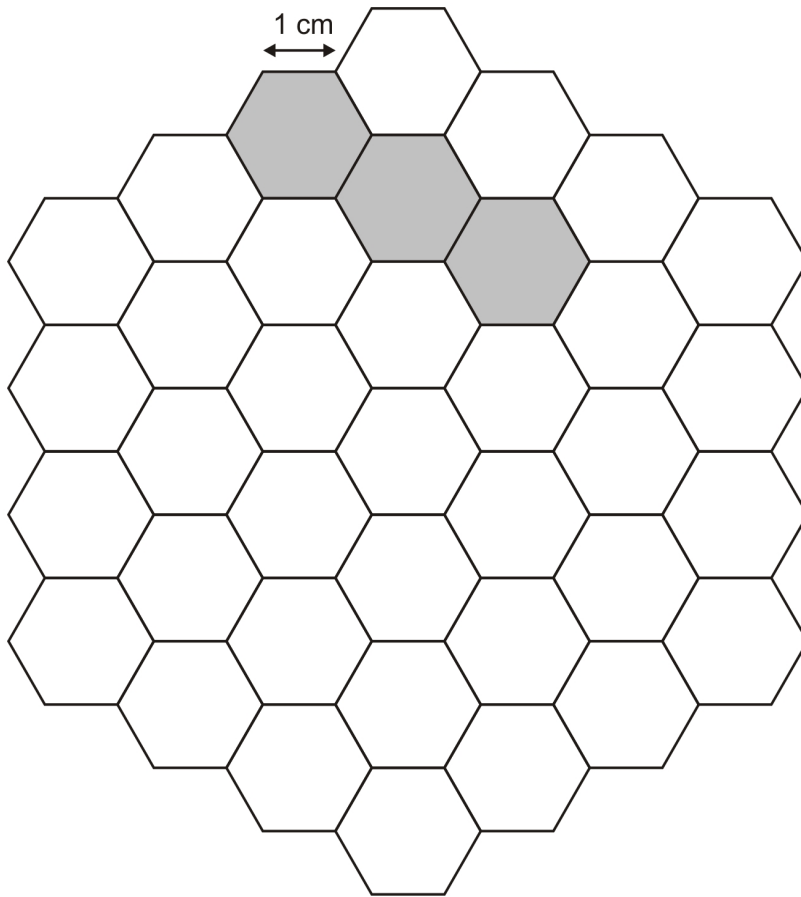
Is Sam correct?
Explain how you know.

1 mark

8   Here is a grid of regular hexagons.

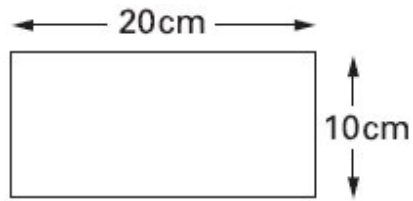The shaded shape has an area of 3 hexagons and a perimeter of 14 cm.

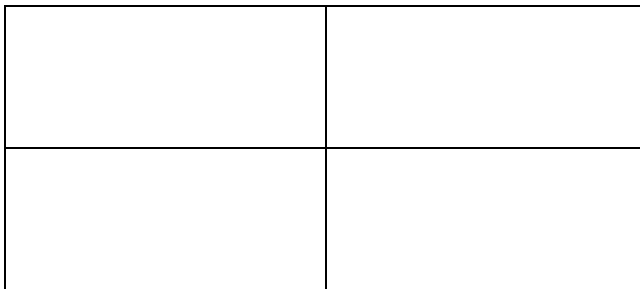Draw another shape on the grid which has an **area** of 4 hexagons and a **perimeter** of 14 cm.

1 cm
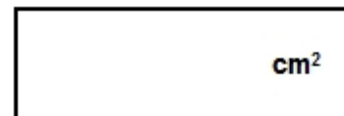
1 mark

9 Rebecca has rectangular tiles like this.

20cm

10cm

Not to scale

She makes a larger rectangle using 4 of the tiles.

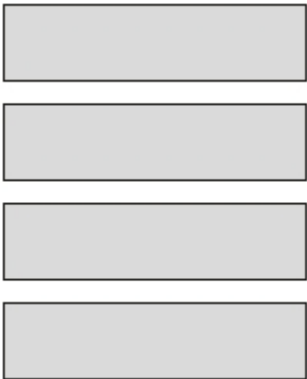What is the **area** of the larger rectangle?
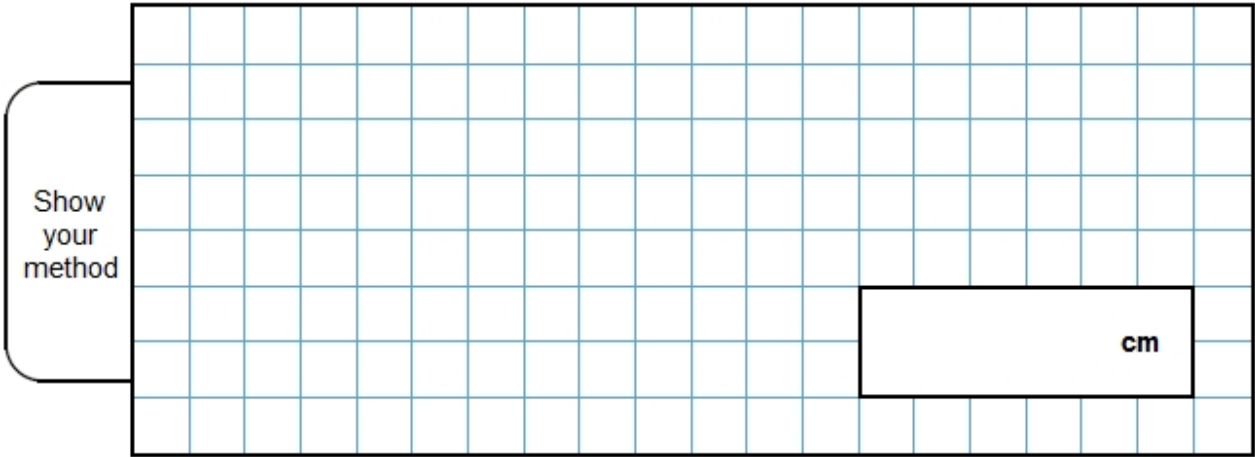
cm²

1 mark

10 The **area** of this square is 36 cm².

Not actual size

The square is cut into quarters to create 4 identical rectangles.

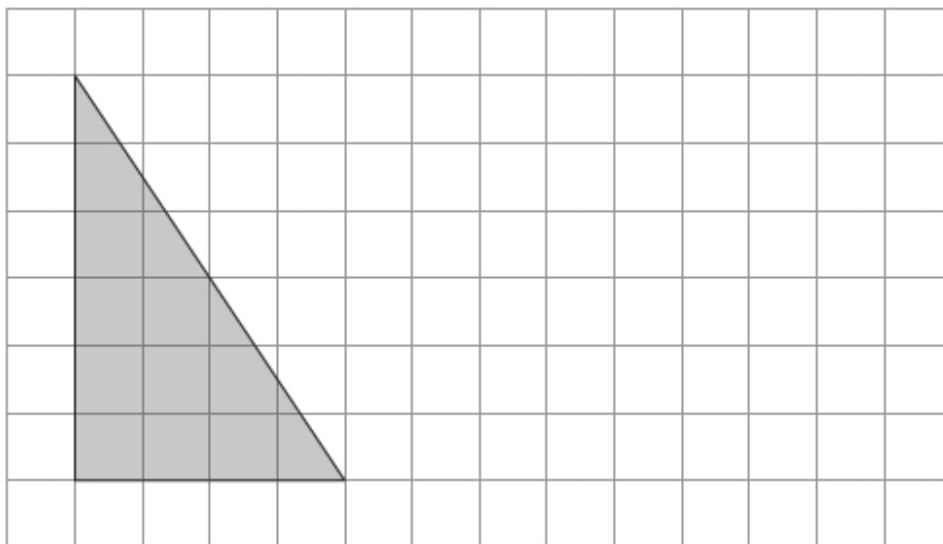What is the **perimeter** of **one** of the small rectangles?

Show your method

cm

2 marks

11 Draw a rectangle on the grid that has **half** the area of the shaded triangle.
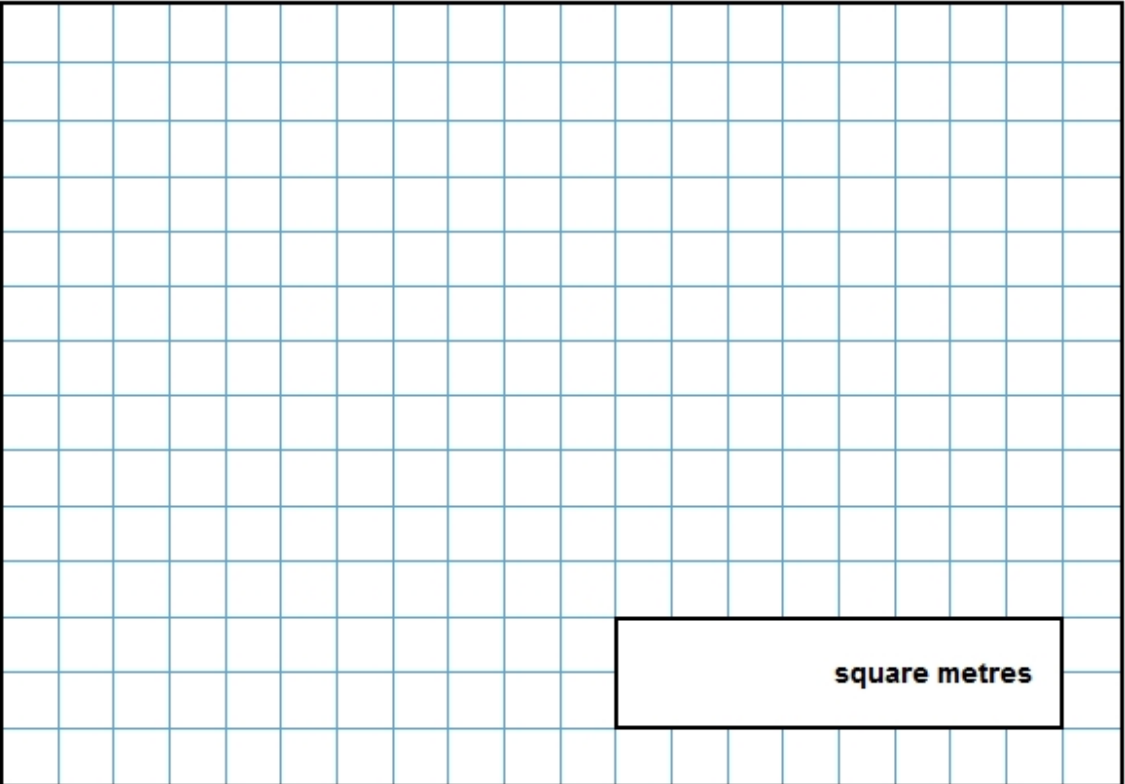
Use a ruler.

1 mark

12 The area of a rugby pitch is 6,108 square metres.

A football pitch measures 112 metres long and 82 metres wide.

How much larger is the area of the football pitch than the area of the rugby pitch?
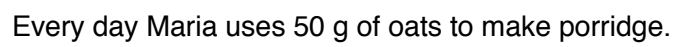
Show your method

square metres

3 marks

13 A packet contains 1.5 kg of oats.

Every day Maria uses 50 g of oats to make porridge.

How many days does the packet of oats last?

Show your method

days

2 marks

14

Miss Mills is making jam to sell at the school fair.

   Strawberries cost £7.50 per kg.

   Sugar costs 79p per kg.

   10 glass jars cost £6.90

She uses 12 kg of strawberries and 10 kg of sugar to make 20 jars full of jam.

Calculate the total cost to make 20 jars full of jam.

Show your method

£

3 marks

15 One gram of gold costs £32.94

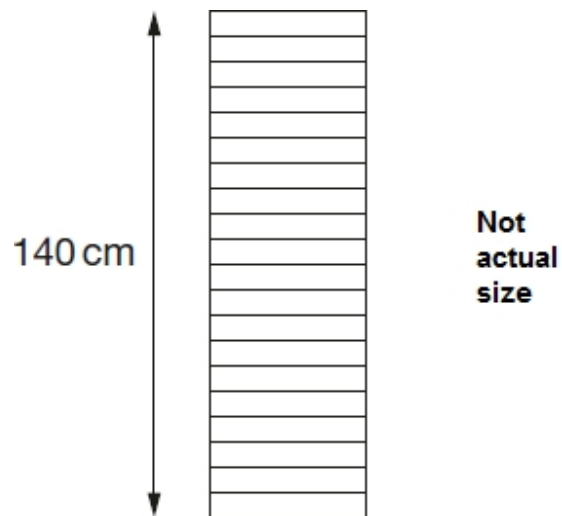What is the cost of **half a kilogram** of gold?

Show your method

£

2 marks

16 A stack of 20 identical boxes is 140 cm tall.

140 cm

Not
actual
size

Stefan takes **three** boxes off the top.

How tall is the stack now?

Show
your
method

cm

2 marks

17 On a map, 1 cm represents 20 km.

```
0   20  40  60  80  100
|___|___|___|___|___|
        kilometres
```
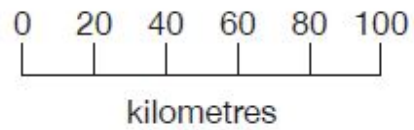
The distance between two cities is **250 km**.

On the map, what is the distance between the two cities?
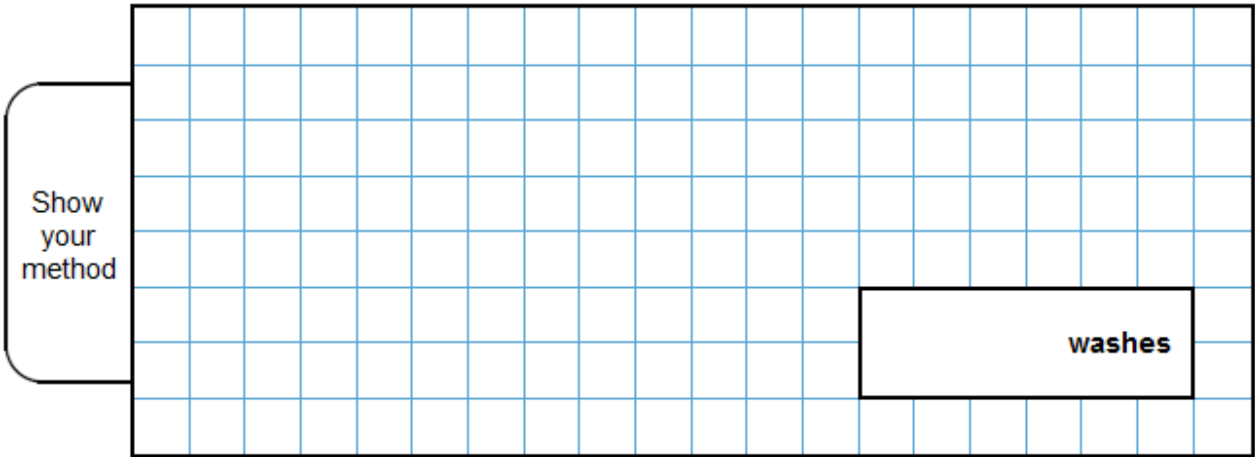
Show your method

cm

2 marks

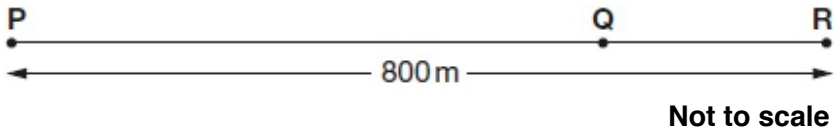**18** A box contains 2.6 kg of washing powder.

washing powder

2.6 kg
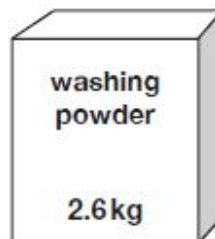
Jack uses 65 grams of powder for each wash.

He uses all the powder.

How many washes did Jack do?

Show your method

washes

2 marks

19

P   Q   R

← 800 m →

Not to scale
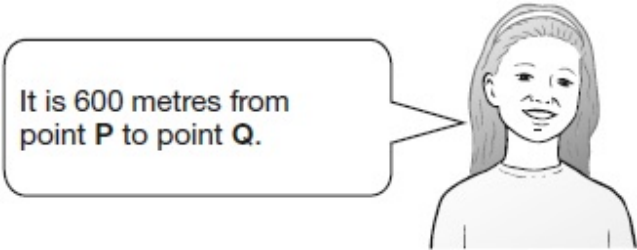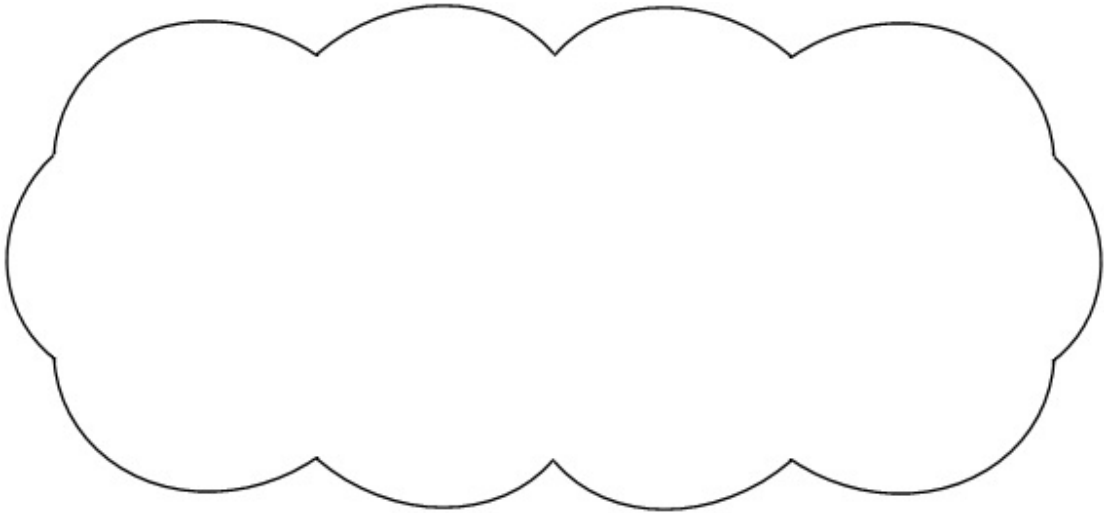
The distance from point **P** to point **R** is 800 metres.

The distance from point **P** to point **Q** is **4 times** the distance from point **Q** to point **R**.
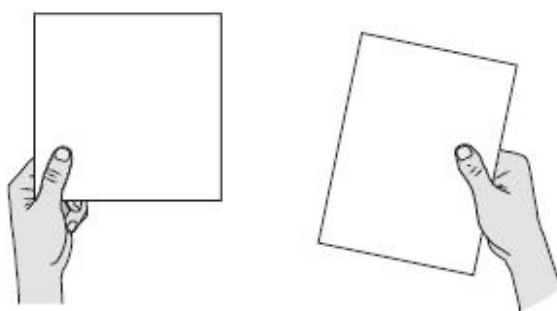
Olivia says,

It is 600 metres from point **P** to point **Q**.

Explain why Olivia is **not** correct.

1 mark

20

A square tile measures 20 cm by 20 cm.

A rectangular tile is 3 cm **longer** and 2 cm **narrower** than the square tile.

What is the **difference in area** between the two tiles?

Show your method

cm²

3 marks