

# GCSE MATHEMATICS

Topic tests – Foundation tier – Problem solving

Name \_\_\_\_\_



1

Work out the **two** missing values in this shopping bill.

[2 marks]

4 doughnuts at 60p each	£2.40
3 coffees at _____ each	_____
<b>Total</b>	£6.00

2 Here are five number cards.



2 (a) Use **three** of the cards to complete the following.

[1 mark]

$$\square + \square \times \square = 9$$

2 (b) Use **four** of the cards to complete the following.

Card 3 has already been placed to help you.

[2 marks]

$$\square \times 3 - \square \times \square = 7$$

2 (c) Use all five cards to complete the following.

[2 marks]

$$\square + \square + \square = \square \square$$

- 3 The three terms on each edge of this grid must add up to  $12x$ .

$3x$		
$2x$		$6x$
		$x$

Complete the grid.

[3 marks]

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4 A bottle of juice fills **either** 12 small glasses **or** 9 large glasses.



Not drawn accurately

Four small glasses are filled from the bottle.

How many large glasses can be filled from the rest of the bottle?

**[2 marks]**

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Answer \_\_\_\_\_

5 Here are four piles of coins.



Not drawn accurately

Each pile has 4 more coins than the pile before it.

Altogether there are 100 coins.

How many coins are there in the smallest pile?

**[3 marks]**

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Answer \_\_\_\_\_

- 6 The sum of the whole numbers from 1 to 50 inclusive is 1275  
Work out the sum of the whole numbers from 2 to 51 inclusive.

**[2 marks]**

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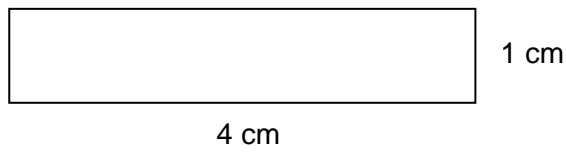
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Answer \_\_\_\_\_

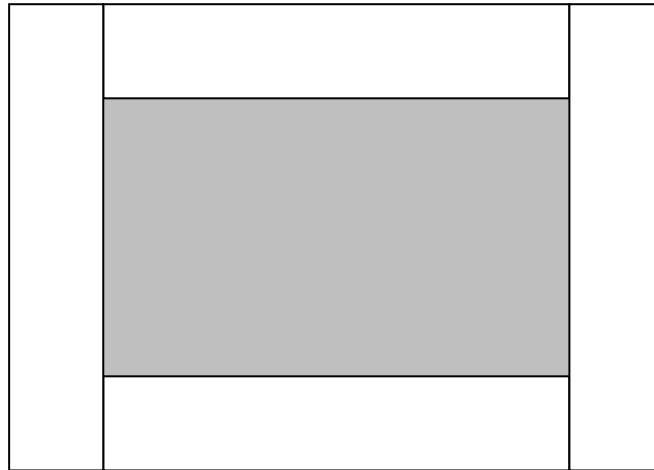
7 The diagram shows a rectangle.

Not drawn accurately



7 (a) Four of these rectangles are put together as shown.

Not drawn accurately



Work out the shaded area.

[2 marks]

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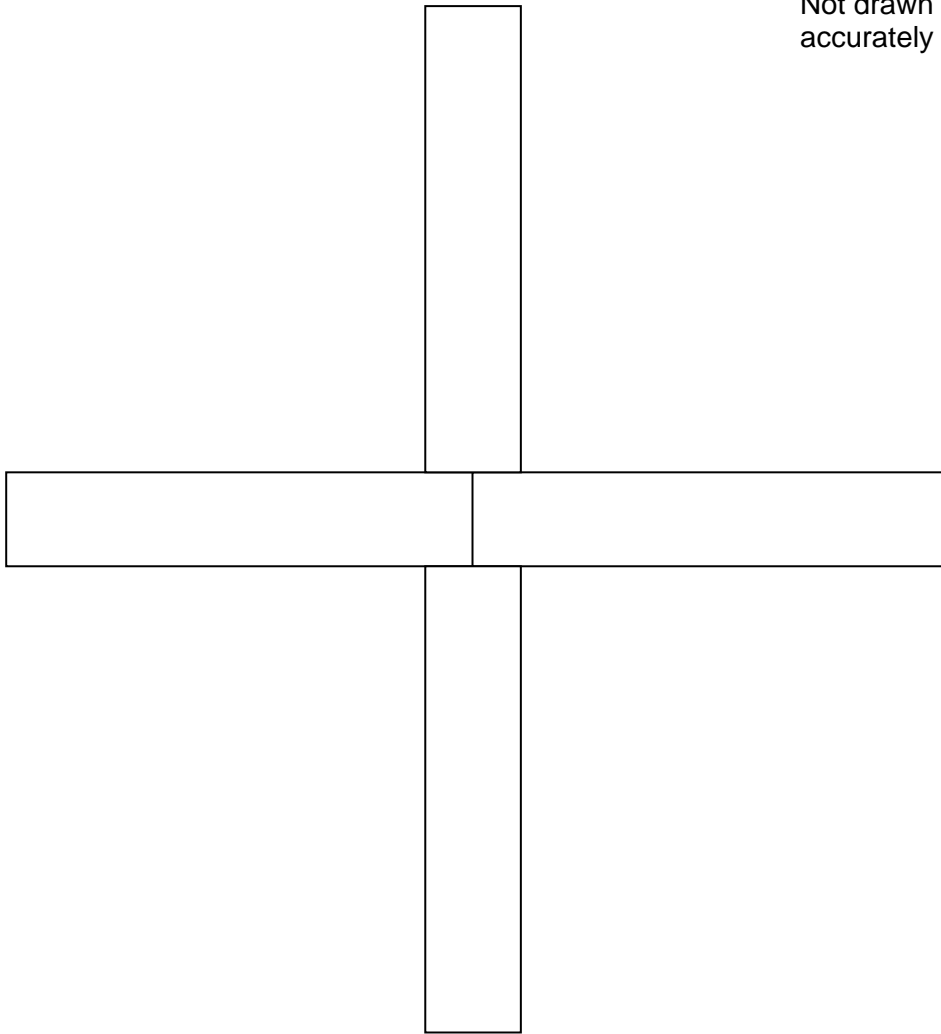
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Answer \_\_\_\_\_ cm<sup>2</sup>



7 (b) The four rectangles are now put together to make this shape.

Not drawn accurately



Work out the perimeter of the shape.  
You **must** show your working.

[3 marks]

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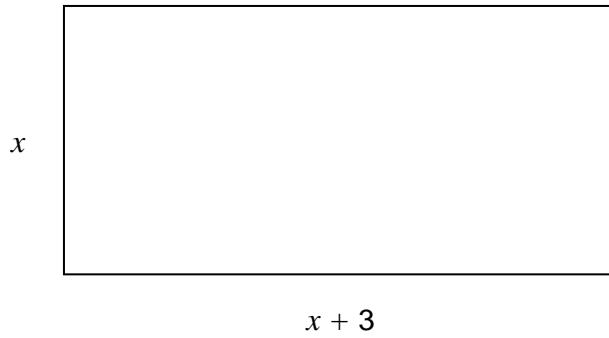
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Answer \_\_\_\_\_ cm

8 The perimeter of the rectangle is 37 cm

Not drawn accurately



Work out the value of  $x$ .

[3 marks]

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$x =$  \_\_\_\_\_ cm

**END OF QUESTIONS**