

1

Ben has 2 types of coin in his pocket.

He has 4 coins of one type and 2 coins of another type.



Altogether he has £1

What two types of coins does he have?

Ben has 4 coins and 2 coins.

1 mark

2

$$2x + y = 20$$

when $x = 6$

when $y = 2$

2 marks

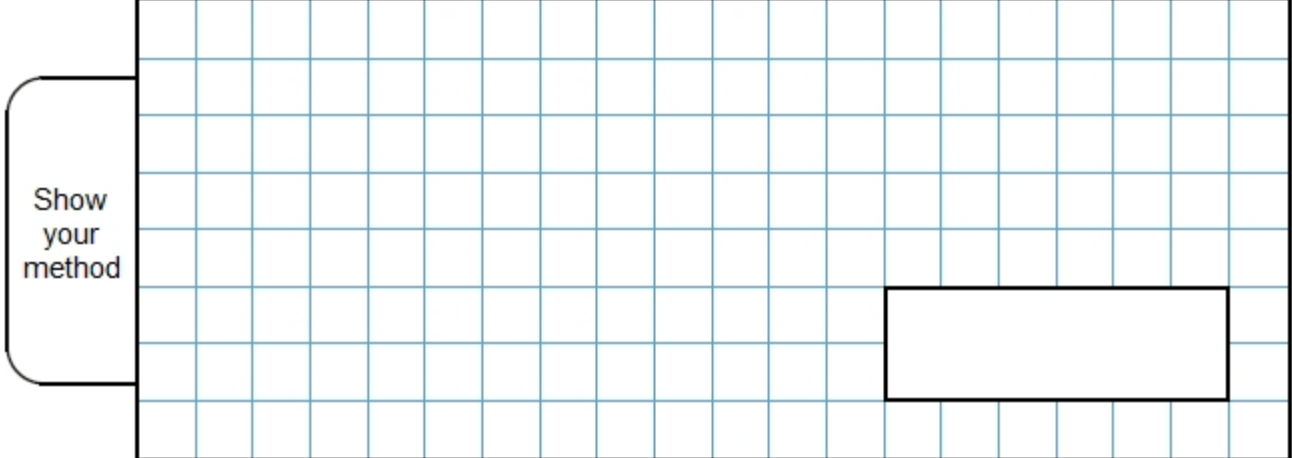
3

In this equation **N** stands for a number.

$$5N - 2 = 3N + 12$$

What is the value of **N**?

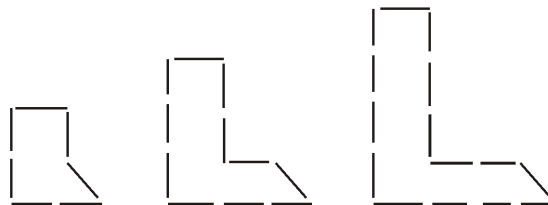
Show your method



2 marks

4

Ann makes a pattern of **L** shapes with sticks.



Shape-number: **1**

2

3

Number of sticks: 7

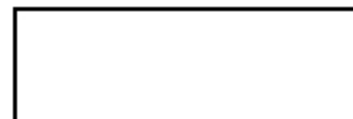
11

15

Ann says :

"I find the number of sticks for a shape by first multiplying the shape-number by 4, then adding 3".

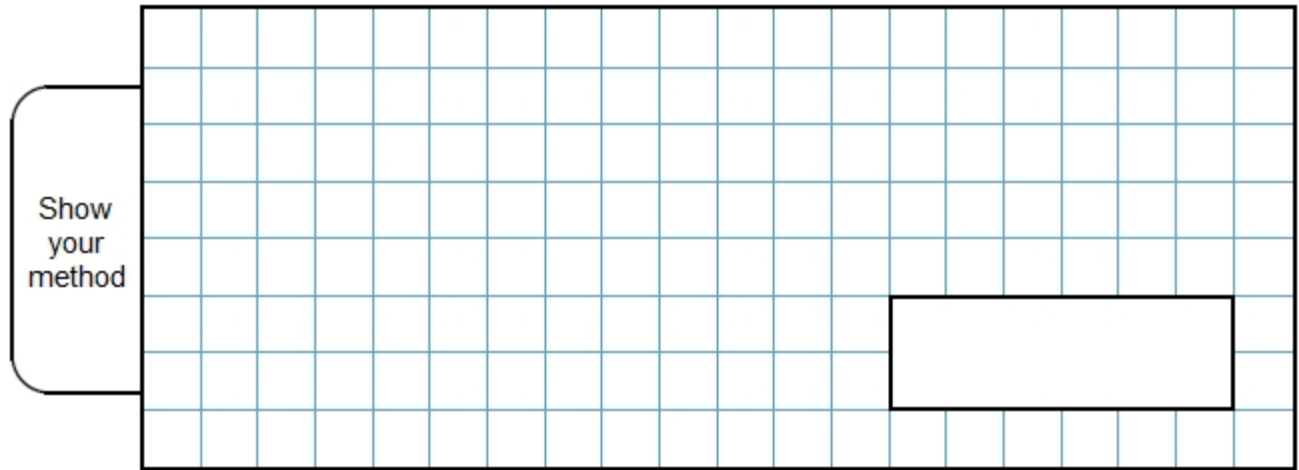
Work out the **number** of sticks for the shape that has shape-number **10**



1 mark

Ann uses **59 sticks** to make another **L** shape in this pattern.

What is its shape-number?



2 marks

Here is Ann's rule again:

"I find the number of sticks for a shape by first multiplying the shape-number by 4, then adding 3".

Write a formula to work out the number of sticks for any **L** shape.

Use **S** for the number of **sticks** and **N** for the **shape-number**.

$$S =$$

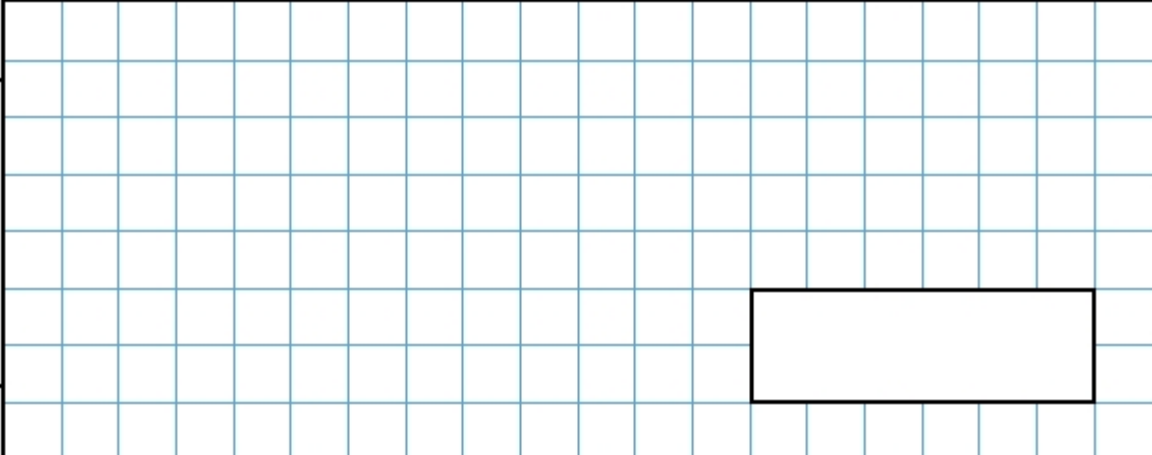
2 marks

5

Find the value of t in this equation.

$$4 + t = 9t$$

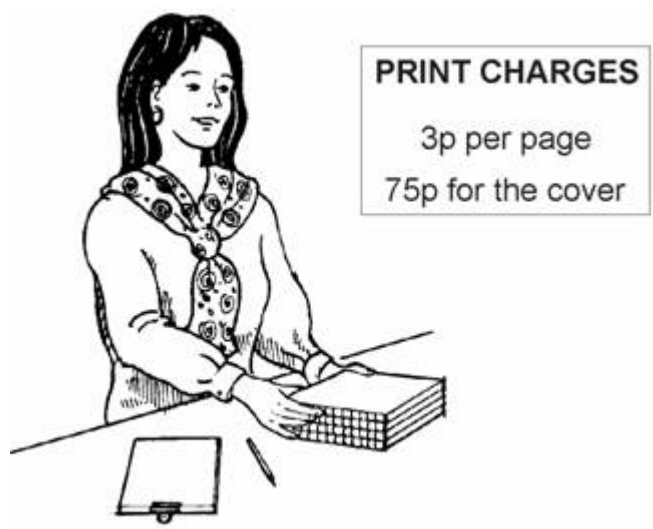
Show your method



2 marks

6

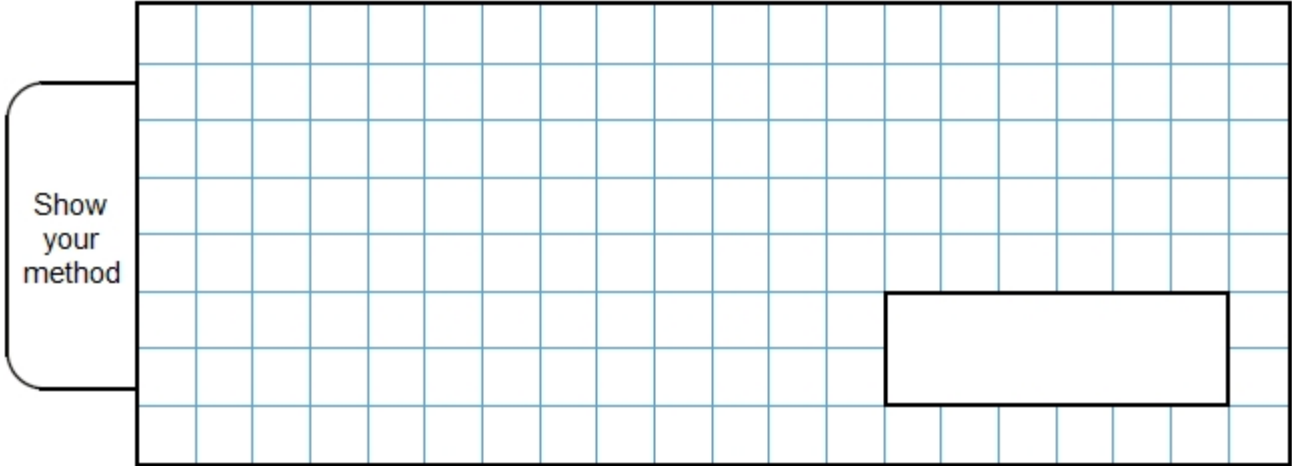
Mrs Jones prints books.



Jon pays **£4.35** for his book, **including the cover**.

How many **pages** are in his book?

Show your method



2 marks

Here are the print prices again.

3p per page and 75p for the cover.

Write a formula for the **total cost** of printing a book with cover.

t stands for the total cost in pence.

Use **n** for the number of pages.

t = _____

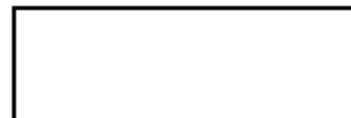
2 marks

7

n stands for a number.

$$n + 7 = 13$$

What is the value of **n + 10**?



1 mark

8Find the value of x in this equation.

$$6x - 27 = 0$$

Show your method

The grid is 20 units wide and 10 units high. A rounded rectangle on the left side contains the text 'Show your method'. A smaller empty rectangular box is located in the bottom right area of the grid, approximately from column 16 to 19 and row 6 to 8.

2 marks

9Fill in the **empty boxes** to complete the pattern.

$n + 6$		$7n + 6$
	$4n + 3$	$7n + 3$
n	$4n$	

2 marks

10

The children at Farmfield School are collecting money for charity.

Their target is to collect £360

So far they have collected £57.73

How much **more** money do they need to reach their target?

£

1 mark

11

Lara had some money.

She spent £1.25 on a drink.

She spent £1.60 on a sandwich.

She has **three-quarters** of her money left.

How much money did Lara have to **start with**?

Show your method

£

2 marks

12

One gram of gold costs £32.94

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

Show your method

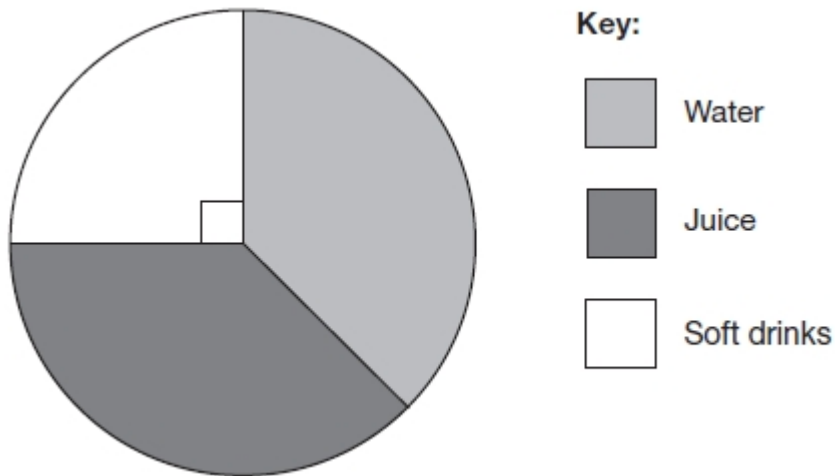
£

2 marks

13

A shop sells drinks.

The pie chart compares the money a shop took last year for water, juice and soft drinks.



14

A shop sells pairs of socks.



1 pair for £5.45



3 pairs for £7.50



5 pairs for £8.50

Kirsty buys 1 pair of knee socks and 3 pairs of ankle socks.

She pays with a £20 note.

How much change does she get?

Show your method

£

2 marks

Amy spends £25.50 on trainer socks.

How many **pairs** of trainer socks does she get?

pairs

1 mark

Mark schemes

- 1** 20 p 10p
Coins must be in the correct order [1]
- 2** $y = 8$ 1
 $x = 9$ 1 [2]
- 3** Award **TWO** marks for the correct answer of 7, even if the working is incorrect.
If answer is incorrect, award **ONE** mark for working that shows evidence of attempt to solve by collecting like terms, eg:
 - $2N = 10$
 - $8N = 14$Up to 2 [2]
- 4** (a) Award **TWO** marks for the correct answer of 43, even if there are errors in the working.
If the answer is incorrect, award **ONE** mark for evidence of an appropriate calculation of multiplication by 4 and addition of 3, eg:
 - $3 + (4 \times 10)$
 - $4 \times 10 + 3$
 - $10 + 10 + 10 + 10 + 3$OR by drawing OR other methods.
Up to 2
- (b) 14 1
- (c) Award **TWO** marks for expressions such as:
 - $S = 4N + 3$
 - $S = 3 + 4N$
 - $S = N + N + N + N + 3$

If the answer is incorrect, award **ONE** mark for evidence of multiplying N by 4 in the expression, eg:

- $4N$
- $4 \times N$
- $N.4$
- $N + N + N + N$

OR award **ONE** mark for evidence of adding 3 in the expression, eg:

- $N + 3$

Do not accept $S = \times 4 + 3 = N$

Up to 2

[5]

5

Award **TWO** marks for the correct answer of $\frac{1}{2}$ OR 0.5

If answer is incorrect, award **ONE** mark for evidence of appropriate method which results in:

- $8t = 4$, or equivalent.

Up to 2

[2]

6

(a) Award **TWO** marks for correct answer of 120 OR 95 (if book is assumed to have two covers)

If the answer is incorrect, award **ONE** mark for evidence of appropriate strategy, eg:

- $435 - 75 = 360$
 $360 \div 3$
- $435 - 150 = 285$
 $285 \div 3$

Up to 2

(b) Award **TWO** marks for correct algebraic expression equivalent to $t = 3n + 75$, OR $t = 3n + 150$, eg:

- $t = 3 \times n + 75$
- $t = 75 + n3$

If expression is incorrect award **ONE** mark for evidence of $3 \times n$, eg:

- $3n + 750$

OR evidence of addition of 75 (or 150) to an expression involving n , eg:

- $n + 75$

No mark is awarded for the expression in words.

Accept inclusion of 'p' in expression, eg:

- $3p \times n + 75p$

Accept 'use of N' as well as n .

Answer to 20b must be consistent with answer to 20a, ie if 2 covers are assumed in 20a, they should be assumed in 20b.

Up to 2

[4]

7

16

[1]

8

Award **TWO** marks for the correct answer of 4.5

OR $4\frac{1}{2}$ **OR** $\frac{9}{2}$ **OR** $\frac{27}{6}$.

If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg:

$$x = 27 \div 6$$

Accept any equivalent to $\frac{9}{2}$

*Calculation need not be performed for the award of **ONE** mark, but the method shown must be capable of producing the correct answer.*

*Accept for the award of **ONE** mark evidence of trial and improvement leading to an incorrect answer, even though this is an inappropriate method of solving linear equations, eg:*

$$6 \times 5 - 27 = 3$$

$$6 \times 4 - 27 = -3$$

$x =$ incorrect answer between 4 and 5

Up to 2

[2]

9Award **TWO** marks for all three boxes correct as shown below.

	$4n + 6$	
$n + 3$		
		$7n$

If only two boxes are correct, award **ONE** mark.**No marks** are awarded for only one correct box.

Accept '1 n' for 'n'.

Accept '7 n + 0' for '7 n' and similar alternatives.

Accept '3 + n' for 'n + 3' and similar alternatives.

Up to 2

[2]**10**

£ 302.27

[1]**11**Award **TWO** marks for the correct answer of £11.40.If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g.

- $£1.25 + £1.60 = £2.85$
 $£2.85 \times 4$

Accept for **ONE** mark an answer of £1,140 **OR** £1,140p **OR** £11.4 as evidence of an appropriate method.Answer need not be obtained for the award of **ONE** mark.

Up to 2m

[2]**12**Award **TWO** marks for the correct answer of £16,470If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, e.g:

- $£32.94 \times 1000 = £32,940$
 $£32,940 \div 2$

OR

- $£32.94 \times 500$
 $= £3294 \times 5$

Answer need not be obtained for the award of **ONE** mark.

Up to 2

[2]

13Award **TWO** marks for the correct answer of £12396.If the answer is incorrect, award **ONE** mark for evidence of an appropriate method, eg:

$$\begin{array}{r} \blacksquare \quad \text{£8264} \\ \times \quad \quad 4 \\ \hline \text{£33056} \end{array}$$

OR

$$\begin{array}{r} \text{£33056} \\ - \quad 8264 \\ \hline \text{£24792} \end{array}$$

$$\text{£24792} \div 2$$

OR

$$\begin{array}{l} \blacksquare \quad \text{£8264} \div 2 = \text{£4132} \\ \text{£8264} + \text{£4132} \end{array}$$

*Answer need not be obtained for the award of **ONE** mark*

Up to 2

[2]**14**(a) Award **TWO** marks for the correct answer of £7.05If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

$$\blacksquare \quad \text{£20} - \text{£5.45} - \text{£7.50} = \text{wrong answer}$$

OR

$$\blacksquare \quad \text{£5.45} + \text{£7.50} = \text{£12.95}$$

$$\text{£20} - \text{£12.95} = \text{wrong answer}$$

*Accept for **ONE** mark £705 OR £705p as evidence of appropriate working.**Working must be carried through to reach an answer for the award of **ONE** mark.*

Up to 2

(b) 15

1

[3]