testbase

KS1 Practice Reasoning

THPS

Name:

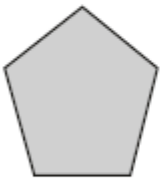
Class:

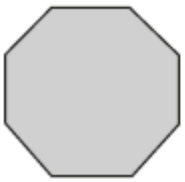
Time: 1 hour

Marks: 35 marks

Comments:

1 Draw lines to match the shapes to their names.





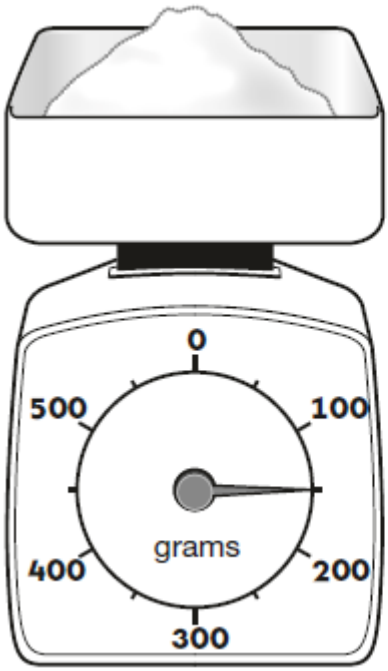
pentagon

triangle

octagon

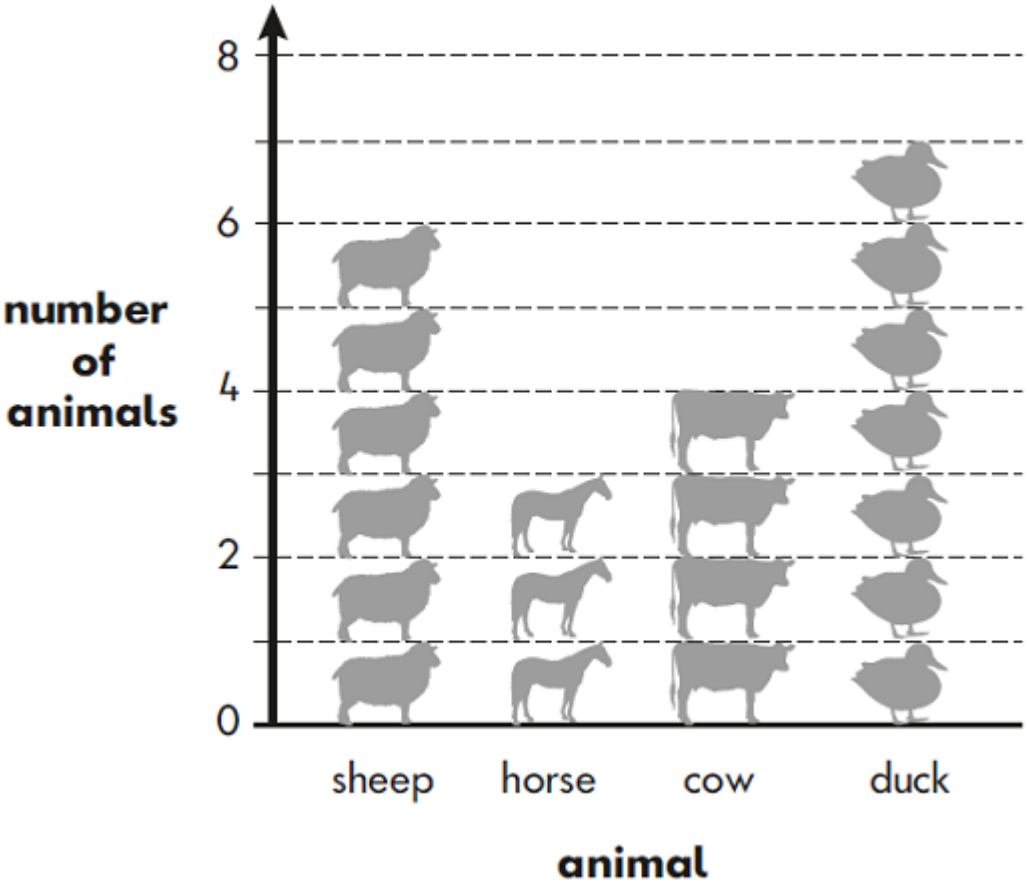
hexagon

2 How much does the sugar weigh?



g

3 This diagram shows the number of animals at a farm.



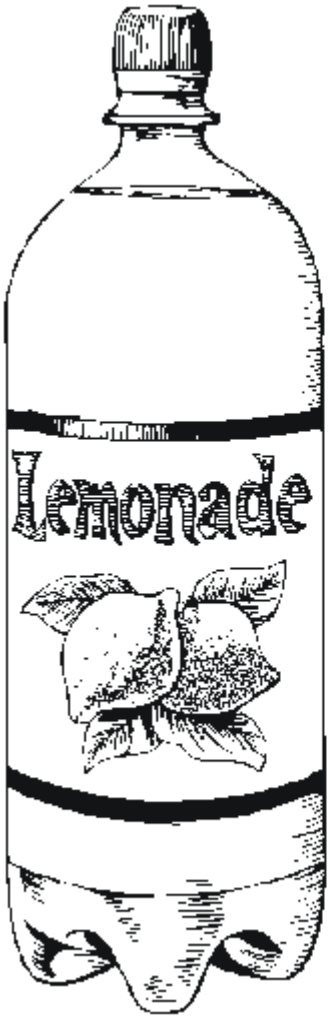
(a) How many sheep and cows are there altogether?

(animals)

(b) There are more ducks than horses. How many more?

4 How much does the bottle hold?

Match the correct label to the bottle.



2 centimetres

2 kilograms

2 litres

2 metres

2 grams

5 Look at these signs.

Write the correct sign in each box.

85 ☐ 58

36 ☐ 36

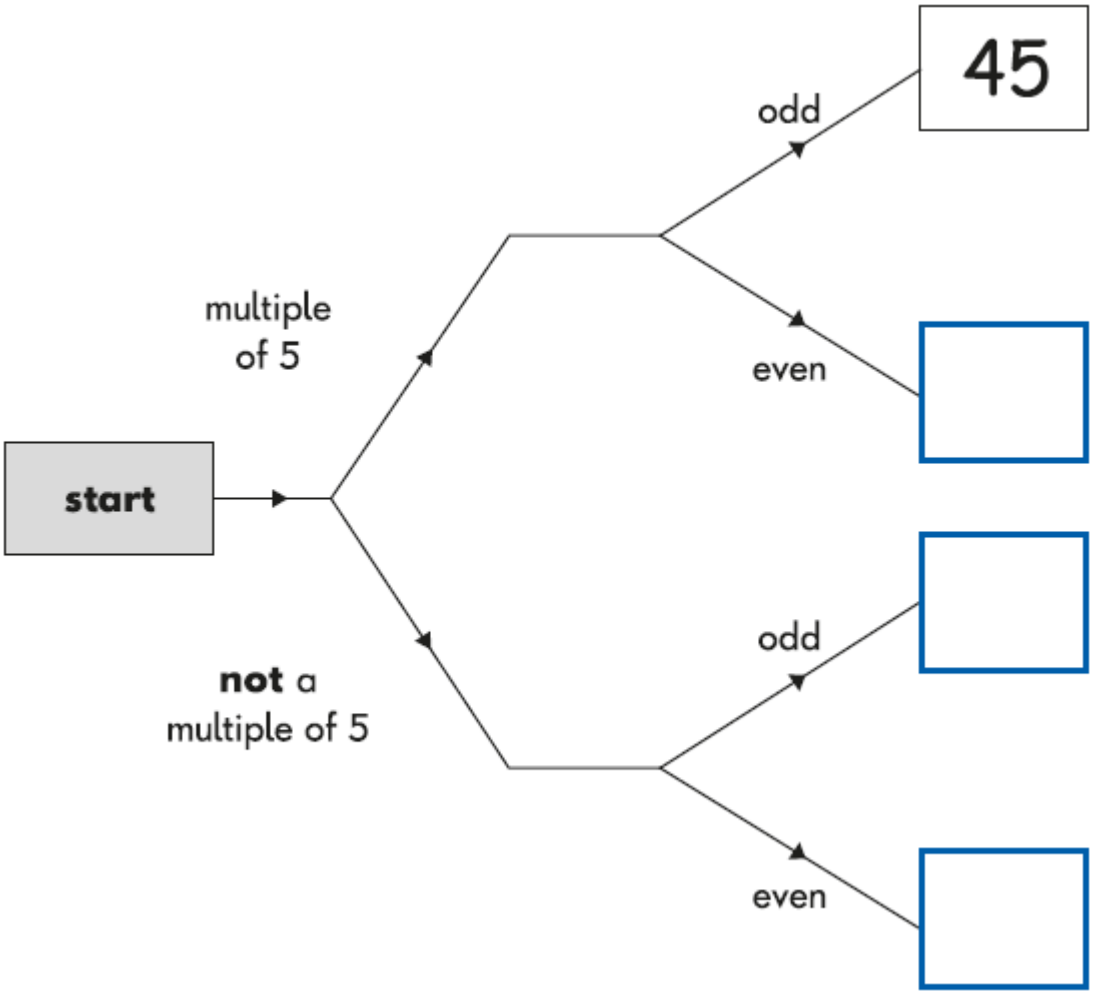
47 ☐ 74

6 Here is a diagram for sorting numbers.

Write each number in the correct box.

One is done for you.

~~45~~ 46 20 53

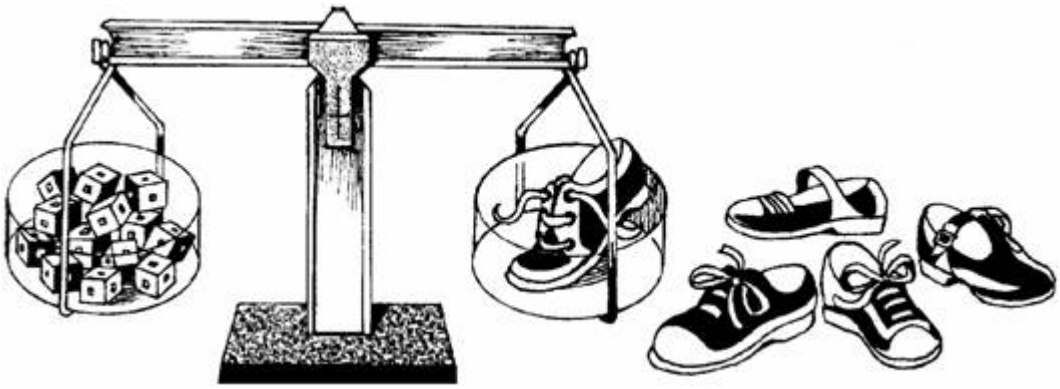


7 Three sticks fit along one side of this book.

Estimate how many sticks fit around **all four sides** of the book.

sticks

8 5 children used cubes to balance one of their shoes.



This table shows the number of cubes they needed.

	cubes
Roma	16
Tina	13
Gareth	18
Ali	20
Susan	15

(a) Whose shoe is heaviest?

(b) Whose shoe is two cubes lighter than Gareth's shoe?

9 Apples cost **10p** each. Pears cost **25p** each.

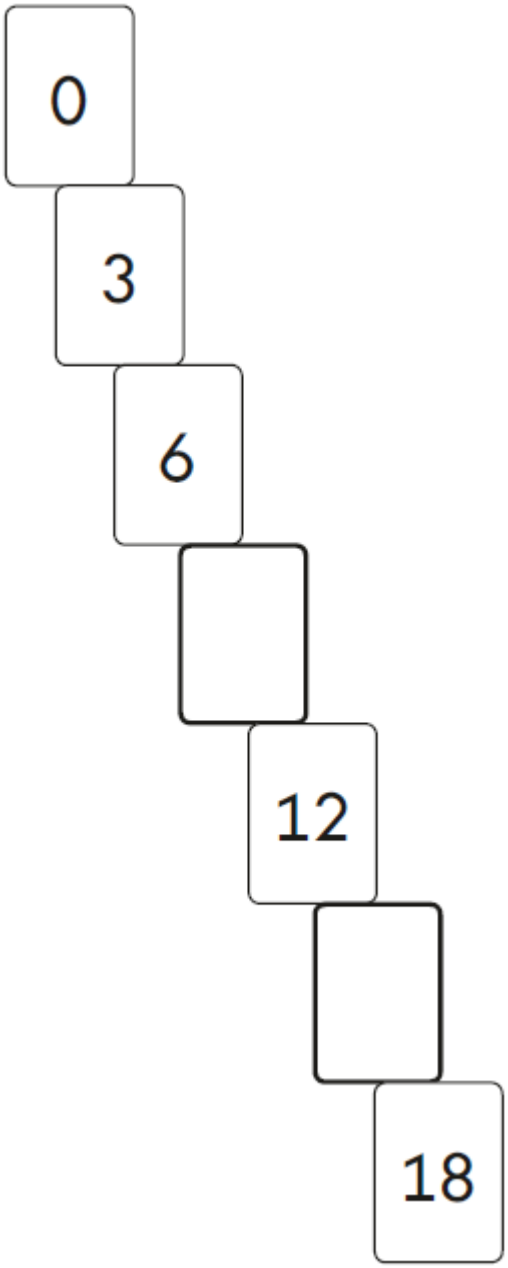
Amy buys **1 apple** and **2 pears**.

How much **change** does she get from **£1**?

Show your working

p

10 Write the **two** missing numbers in this pattern.



11 Write a digit in each box to make the sum correct.

12 Amy buys an ice-cream for 90p.

(a) Tick (✓) **three** coins to show how Amy can make **90p**.

(b) Tick (✓) **four** coins to show another way to make **90p**.

13 Sam is collecting cards.

He wants to collect **100** cards altogether.

Last week he collected **50** cards.

This week he collects **30** cards.

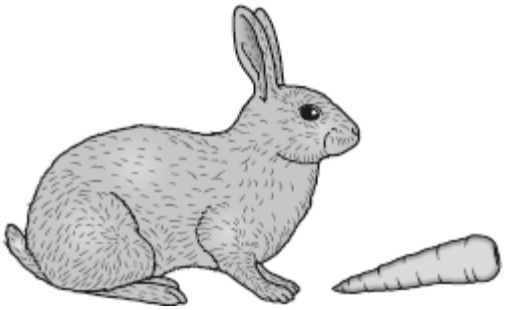
How many **more** cards does he need?

cards

14 Amy plants **4** rows of carrots.

There are **3** carrots in each row.

A rabbit eats **2** of the carrots.



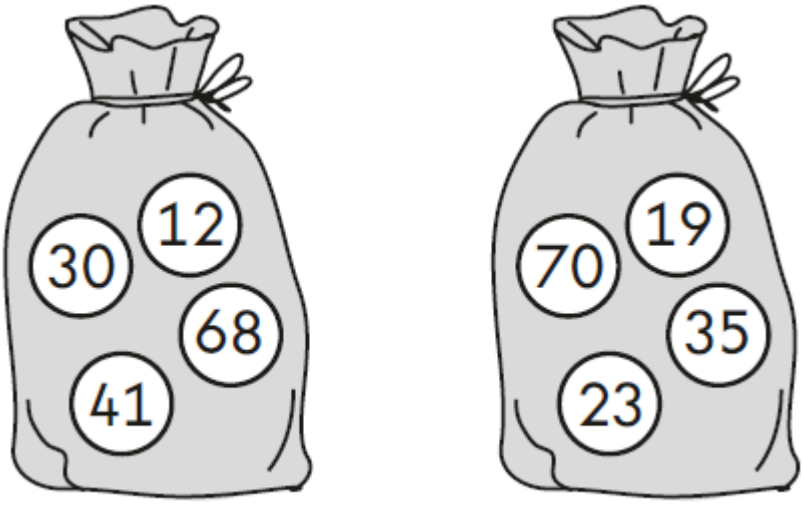
How many carrots are left?

Show your working

carrots

15 **Two** of the numbers are in the **wrong** bag.

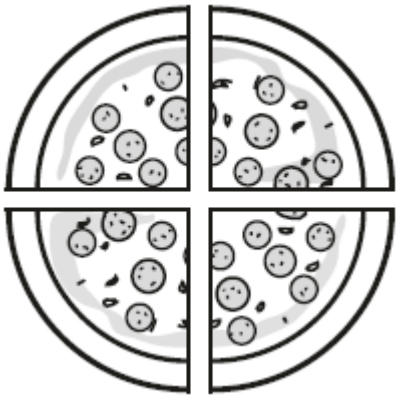
Draw a cross (✗) on each of them.



even numbers

odd numbers

16



Sita cuts a pizza into four equal slices.

She eats one slice.

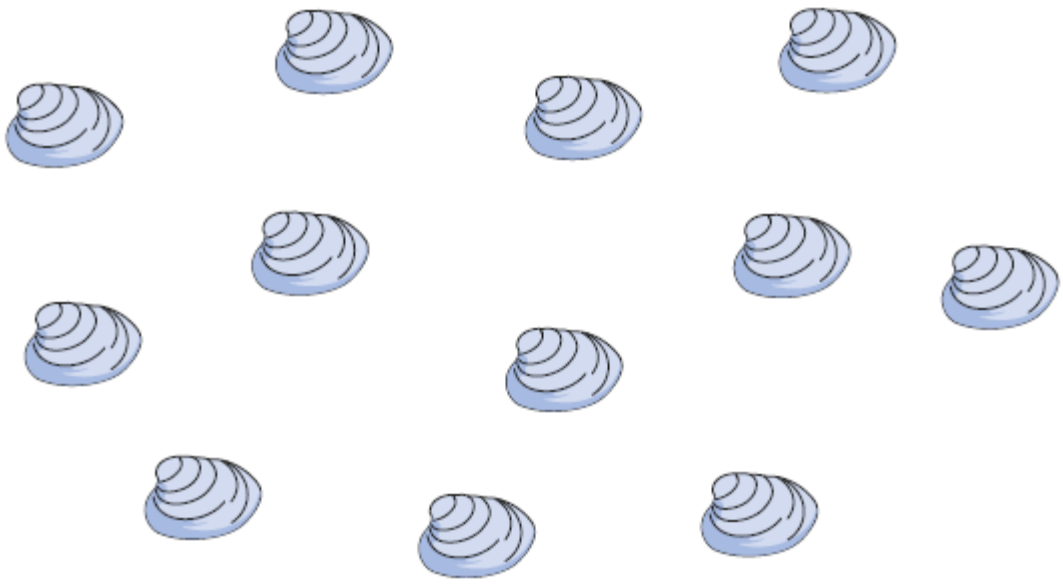
What fraction of the pizza does she eat?

17 Complete the table.

words	digits
thirty-eight	38
	40
ninety-four	

18 **Four** children share these shells.

They each get the same number of shells.



How many shells does each child get?

shells

19

small bottle of water

$\frac{1}{4}$ litre

large bottle

2 litres

How many small bottles of water will fill the large bottle?

small bottles

20

Look at the numbers in this addition.

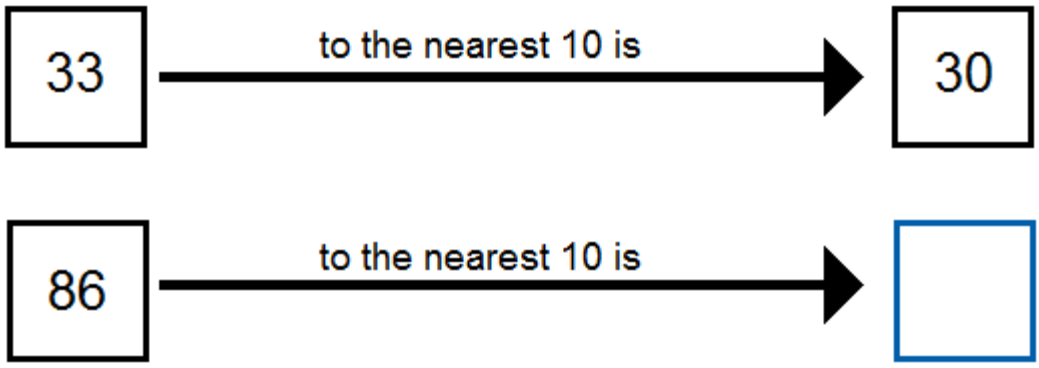
9	+	5	=	14

Use the **same numbers** to make these correct.

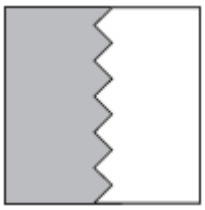
	–		=	9

	–	9	=	

21



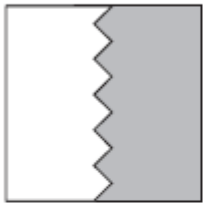
22 This tile is rotated **clockwise** through a three-quarter turn.



What will the tile look like **after** it has been turned?

Tick **one.**

☐



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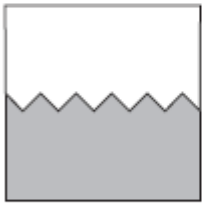

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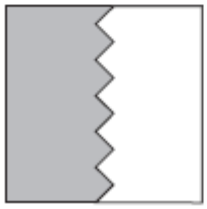
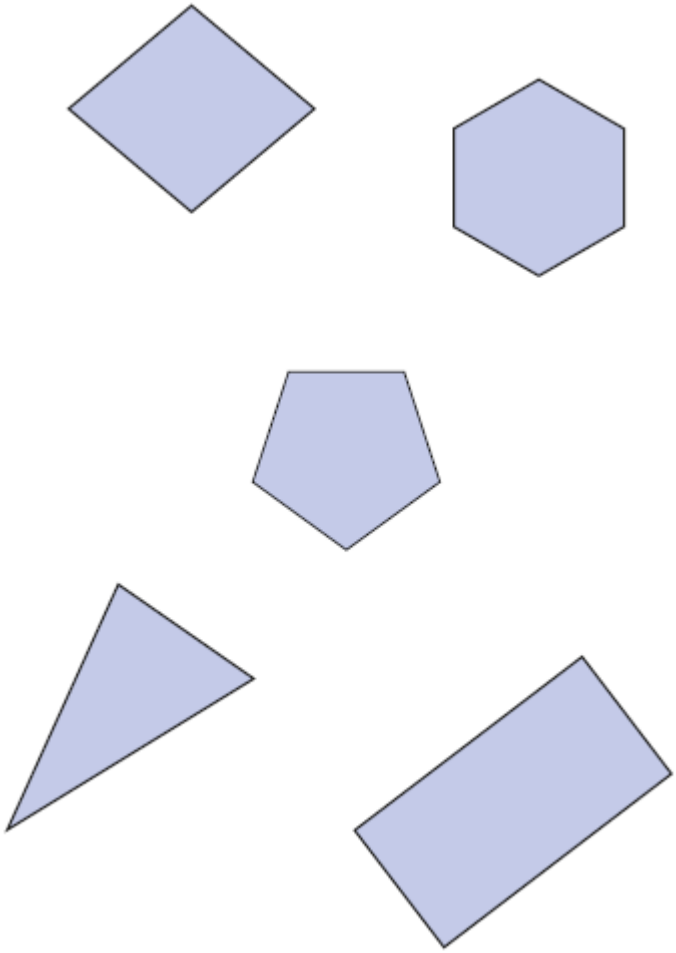


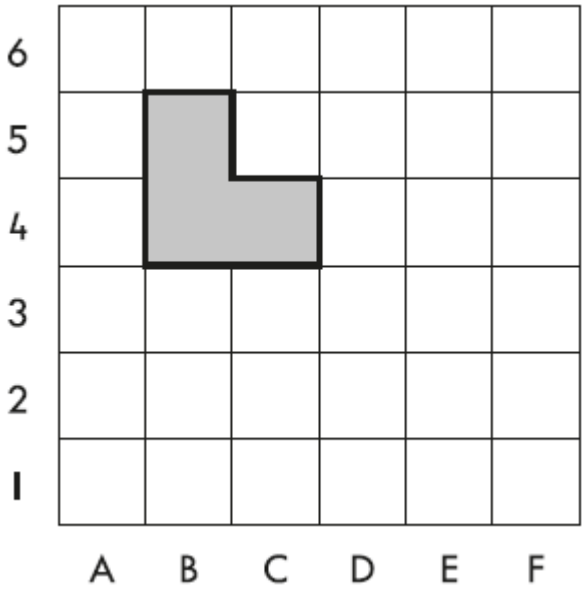
☐

23 Look at the shapes.

Tick (✓) the hexagon.



24 Look at the ⌐ shape on the grid.



Part of it is in square **B5**

Write the other **two** squares it is in.

and

25 Bethan has 6p. She wants to buy a drink.

drink 40p

apple 10p

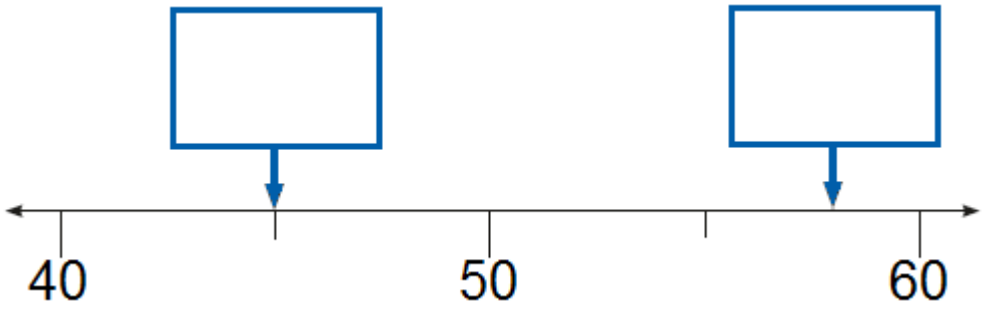
banana 18p

crisps 23p

How much more money does she need?

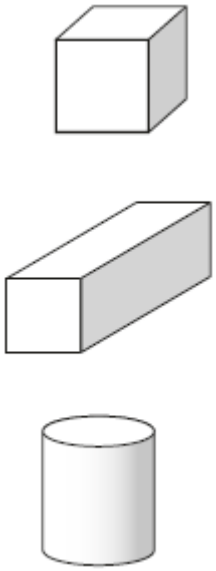
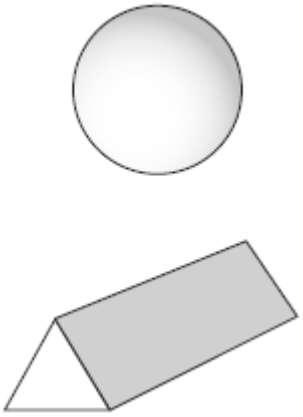
p

26 Write the correct number in each box.

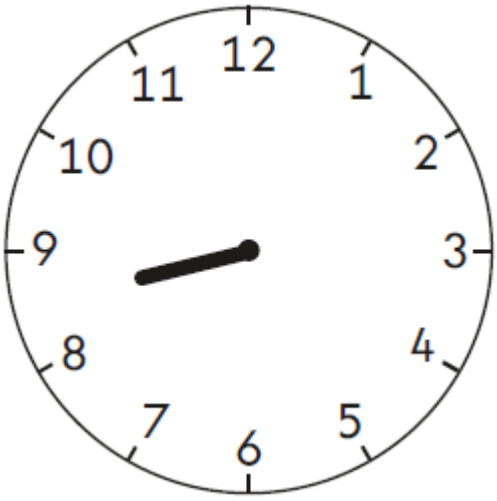


27 **One** shape is in the **wrong** place on the sorting grid.

Draw a cross (✗) on it.

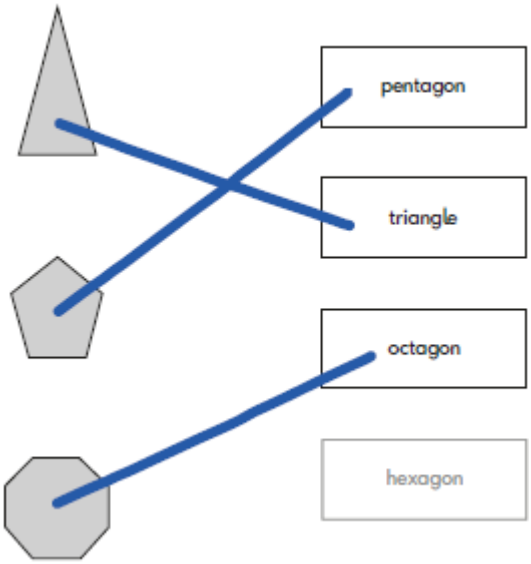
Shapes **with** a square face	Shapes **without** a square face
	

28 Draw the minute hand on the clock to show **twenty-five past eight**.



Mark schemes

1



All shapes must be correctly matched for the award of the mark.

***Do not** award the mark if a shape is matched to more than one name.*

Ignore any additional shapes drawn.

[1]

2 150 (g)

[1]

3 (a) 10 (animals)

1

(b) 4

***Do not** accept 7 – 3*

1

[2]

4 Line drawn joining the bottle of lemonade to 2 litres.

Accept any clear way of indicating the correct answer. If any additional line is drawn, award no mark unless the intention is clear.

[1]

5

85 > 58

36 = 36

47 < 74

All boxes must be correct for the award of the mark.

[1]

6

All three numbers positioned in the correct boxes as shown:

45

20

53

46

All three numbers must be positioned correctly for the award of the mark.

***Do not** award the mark if any of the given numbers are written in more than one box.*

Ignore any other numbers written in the boxes.

[1]

7

Accept answers in the range 14 to 18 (sticks) inclusive.

***Do not** accept 12.*

[1]

8

(a) Ali's

1

Accept 'All'.
Accept 20.

(b) Roma's

Accept 'Roma'.

1

[2]

9 Award **TWO** marks for the correct answer of 40 (p)

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

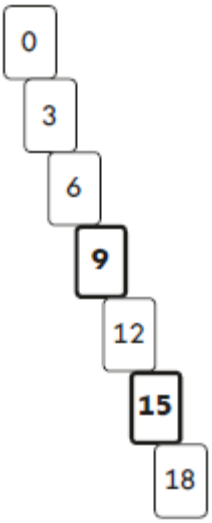
2 × 25 = 50.

50 + 10 = 60.

£1 − 60 = incorrect answer.

[Up tp 2 marks]

10 Pattern completed as shown:



Both numbers must be correct for the award of the mark.

[1]

11 Sum completed as shown:

7	**9**	+	**4**	=	8	3

OR

7	**8**	+	**5**	=	8	3

OR

7	**7**	+	**6**	=	8	3

OR

7	**6**	+	**7**	=	8	3

OR

7	**5**	+	**8**	=	8	3

Do not *accept more than one digit in each box.*

Do not *accept 70 + 13 = 83*

[1]

12 (a) Three coins ticked as shown:

Accept any other clear way of indicating the correct coins.

1

(b) Four coins ticked as shown:

OR

Accept any other clear way of indicating the correct coins.

1

[2]

13 20 (cards)

[1]

14 Award **TWO** marks for the correct answer of 10 (carrots). **2**

OR

If the answer is incorrect, award **ONE** mark for evidence of appropriate method, e.g.

- 3 × 4 = 12
  12 − 2 =

*Award **ONE** mark for a complete correct method.*

(Use the acceptable and unacceptable responses given to help you make your decision.)

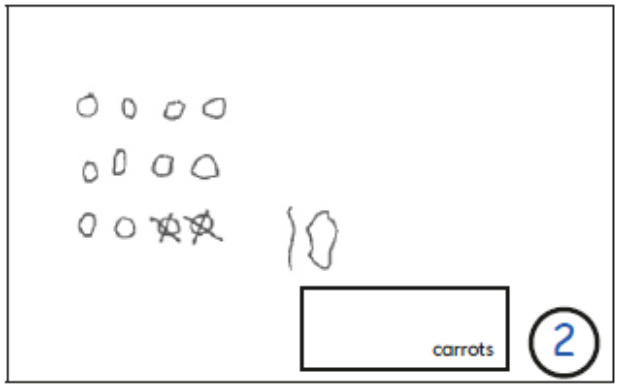
1

[2]

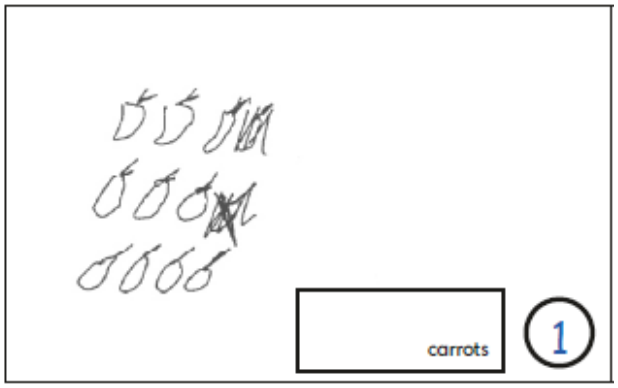
Exemplar responses

Declan has been awarded **two** marks because he has recorded the correct answer even though it is not within the answer box. **Petra** has recorded a complete pictorial method but has not evaluated her final answer; therefore she is awarded **one** mark.

Declan

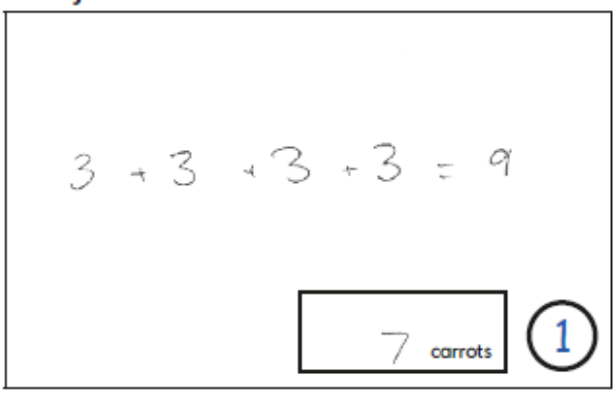


Petra

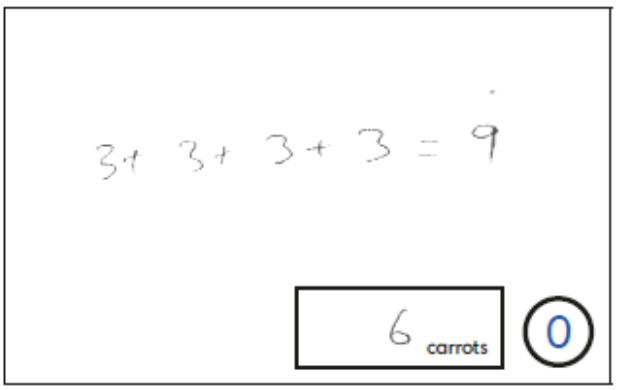


Molly has made an arithmetic error when totalling four groups of 3. An invisible step; i.e. 9 – 2, can be assumed because she has the answer 7, and therefore she is awarded **one** mark for a complete correct method. **Joel** has made a similar arithmetic error in totalling the four 3s. For his second step we cannot assume he attempted to subtract 2, as he has not reached the answer of 7; therefore **no mark** can be awarded.

Molly

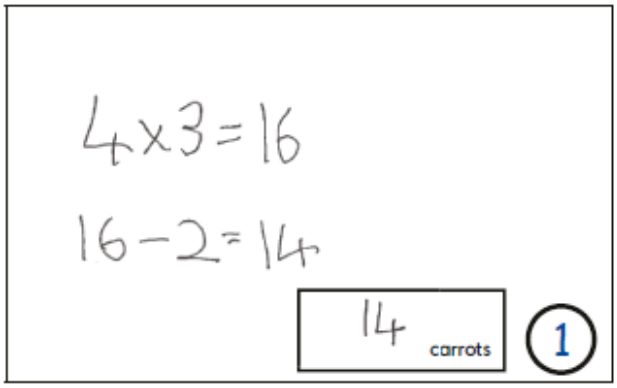


Joel

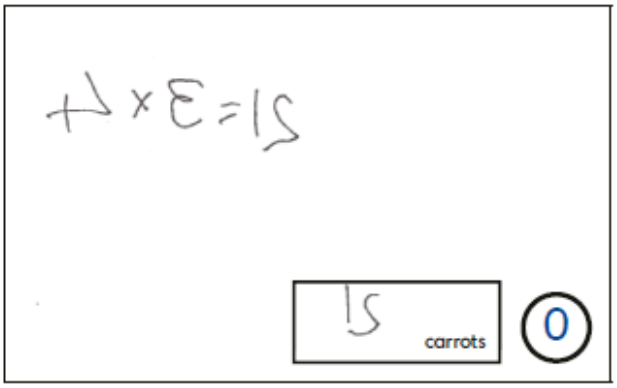


Chen has recorded a complete method; i.e. he has multiplied 4 by 3 and subtracted 2. If he had not made an arithmetic error in calculating 4 × 3, he would have reached the correct final answer. Consequently he can be awarded **one** mark. **Jenny** has calculated 4 × 3 correctly, but has failed to subtract 2, to complete the method, so **no mark** can be awarded.

Chen

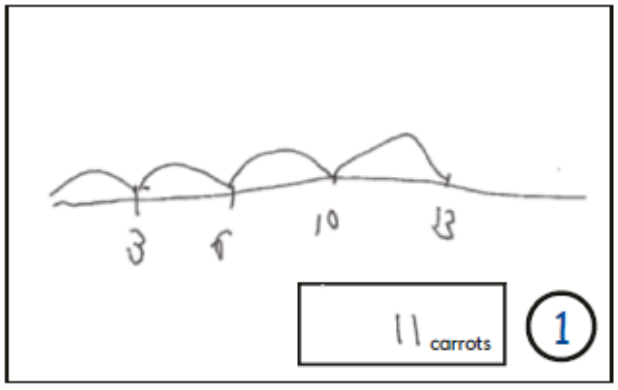


Jenny

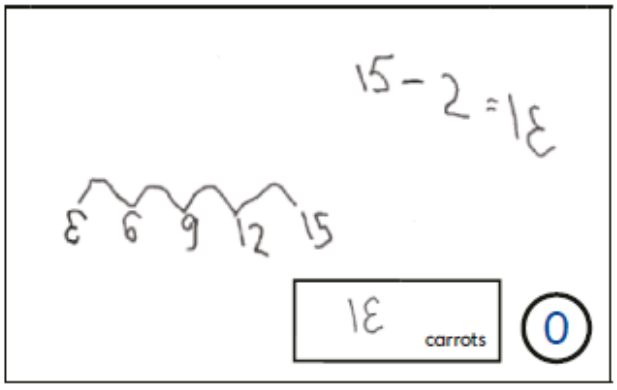


Jaya and **Tom** have used a counting on method for the first part of the problem. **Jaya** has made four jumps of 3, but has made an error in her third jump. Although she has not shown the next step in the problem, we can see that she has subtracted 2 as 13 – 2 = 11. She has recorded a complete, correct method so **one** mark can be awarded. **Tom** has not made any arithmetic errors in repeatedly adding 3. He has recorded four jumps of 3, but did not start from 0. This is not a correct method for calculating 4 × 3, so **no mark** can be awarded.

Jaya

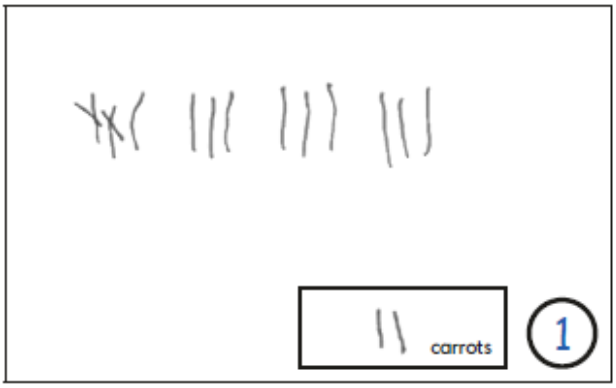


Tom

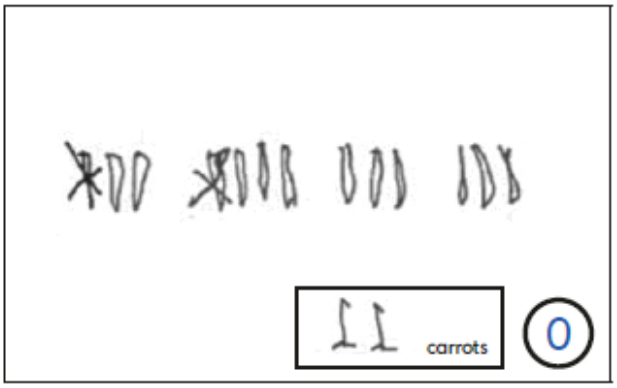


Craig and **Omar** have used pictorial representations to illustrate the rows of carrots. **Craig** has done this correctly and clearly shown the subtraction of 2; however he has miscounted the remaining carrots. He has recorded a complete, correct method so **one** mark can be awarded. **Omar** has made an error in recording the carrots, possibly confusing the number of rows and the number of carrots in each group. Although he subtracts 2 to complete the calculation, it is not a fully correct method, so **no mark** can be awarded.

Craig

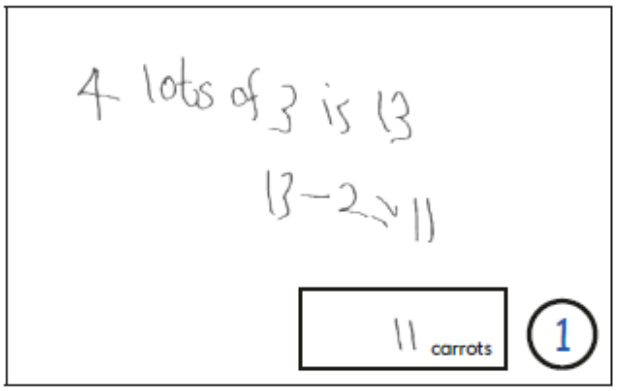


Omar

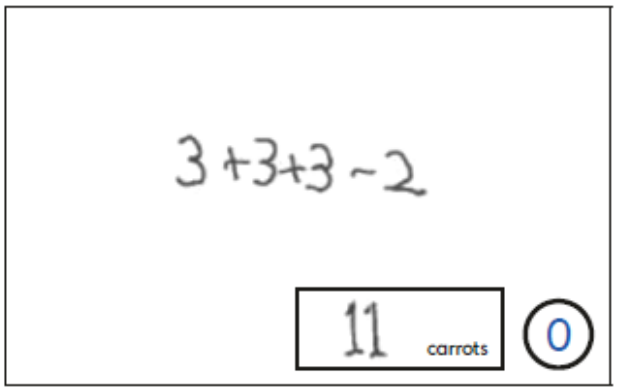


Jasmine has recorded a complete method with an arithmetic error. She calculates four lots of 3 (=13) incorrectly, but goes on to complete the method by subtracting 2 and is awarded **one** mark. **Kim** may have intended to follow the same procedure, but because she has only recorded three groups of 3, we cannot be assured of her method for calculating 4 × 3, so **no mark** can be awarded.

Jasmine

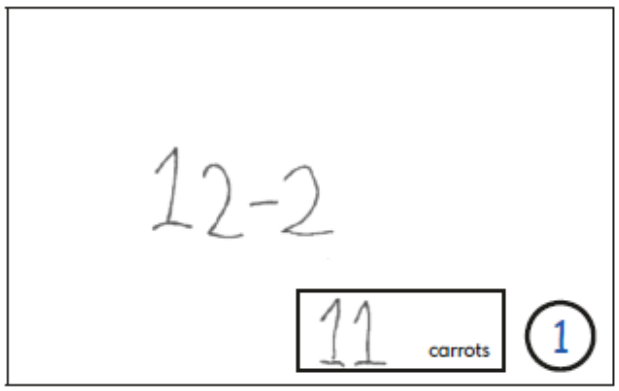


Kim

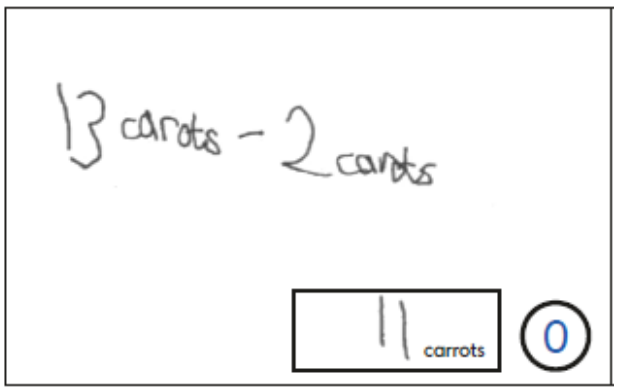


Hannah and **Seija** have both recorded part of their method. **Hannah** has correctly calculated 4 × 3 mentally before recording the result and subtracting 2 from it (12 – 2). Although she made an arithmetic error in her subtraction she has a complete, correct method so **one** mark can be awarded. **Seija** may have carried out the same procedure, but because she has not recorded her working for the first part, we cannot be sure how her 13 was obtained. Therefore **no mark** can be awarded.

Hannah

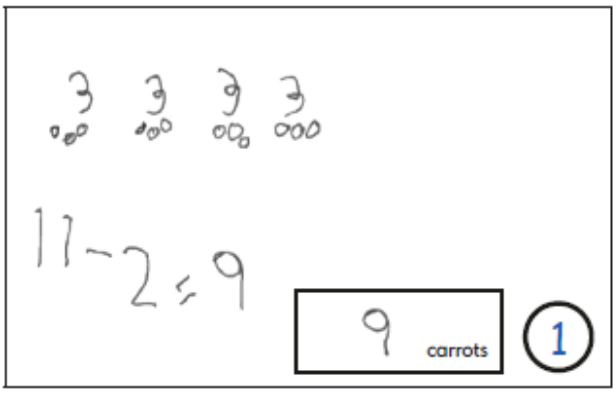


Seija

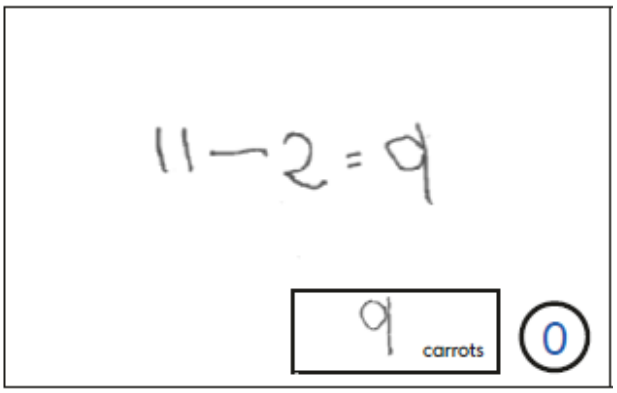


Simon and **Maria** have both recorded the second part of the method, like **Seija**. However **Simon** has shown four groups of 3 (the first part of the method) and we can assume he has miscounted to reach his 11. He has shown a complete, correct method so **one** mark can be awarded. **Maria** may have mentally calculated 4 × 3 (wrongly), but because she has not recorded her working for that part, we cannot be sure how her 11 was obtained. Therefore **no mark** can be awarded.

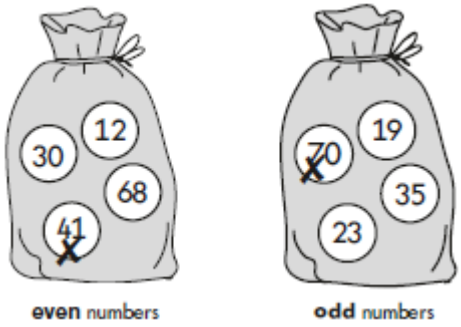
Simon



Maria



15 Crosses drawn on 41 and 70 as shown:



Both numbers must be selected for the award of the mark.

Accept any other clear way of indicating the correct numbers.

[1]

16 Correct fraction written in the box, as shown:

$\boxed{\frac{1}{4}}$

Also accept $\frac{1}{4}$ *written in words, e.g. 'one quarter'.*

[1]

words	**digits**
thirty-eight	38
forty	40
ninety-four	**94**

Both parts must be correct for the award of the mark.

Accept any reasonable spelling for 'forty',
e.g. forte, fourtee, fort.

***Do not** accept words that might indicate 'fourteen',*
e.g. fortin,

OR

'four', e.g. for, fore.

Accept reversed digits for '94', e.g. ' ***P4*** *' provided that the order of the digits is not swapped.*

***Do not** accept 49, **4P** etc.*

[1]

18 3 (shells)

[1]

19 8 (small bottles)

[1]

20 Both subtractions completed correctly:
14 – 5 = 9
14 – 9 = **5**

Award both marks for the correct answer by entering 1 in each mark box.

2
U1

This mark may be awarded for children who:
complete one subtraction correctly

OR

choose their own pair of numbers which they use to complete both subtractions correctly.

If one mark is awarded, enter 1 then 0 in the mark boxes.

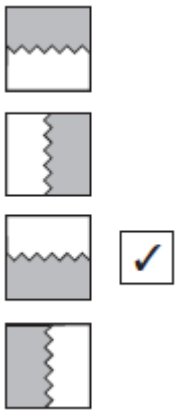
1

[2]

21 90

[1]

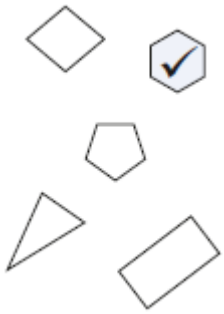
22



Do not *award the mark if more than one answer is indicated.*

[1]

23 Hexagon ticked as shown:



Accept any other clear way of indicating the correct shape, e.g. circling.

***Do not** award the mark if other shapes are also indicated, unless it is clear that the correct shape is the pupil's final choice.*

[1]

24 B4 **and** C4 in either order.

Both grid references must be correct for the award of the mark.

***Do not** award the mark if 4B or 4C are given.*

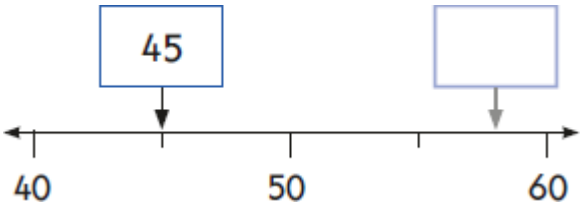
[1]

25 34 or thirty-four. *correct.*

Also accept answer written outside box if

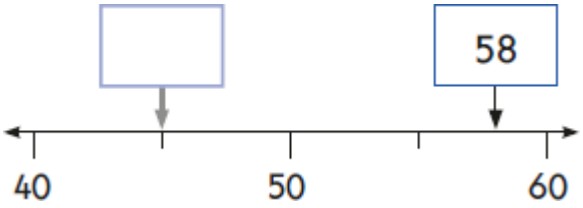
[1]

26 (a) 45 written in the first box as shown:



[1]

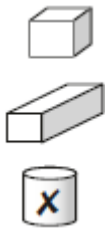
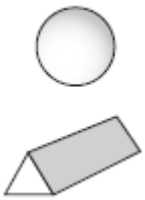
(b) 58 written in the second box as shown:



Accept any number ***in the range 57–59 inclusive****.*

[1]

27 Cross drawn on the cylinder, as shown:

Shapes **with** a square face	Shapes **without** a square face
	

Accept any other clear way of indicating the cylinder.

Do not *award the mark if other shapes are indicated, unless it is clear that the correct shape is the pupil's final choice.*

Accept a tick that is near to the correct answer, so as long as it is unambigous as to which shape is identified.

[1]

28 Minute hand drawn within the tolerances shown:

Accept minute hand drawn between $22\frac{1}{2}$ *minutes*

past to $27\frac{1}{2}$ *minutes past (inclusive).*

Accept any length clock hand drawn as long as it is within the range given above.

[1]