

Multiplication and Division Extension Activity

Name: _____

Class: _____

Date: _____

Time: **113 minutes**

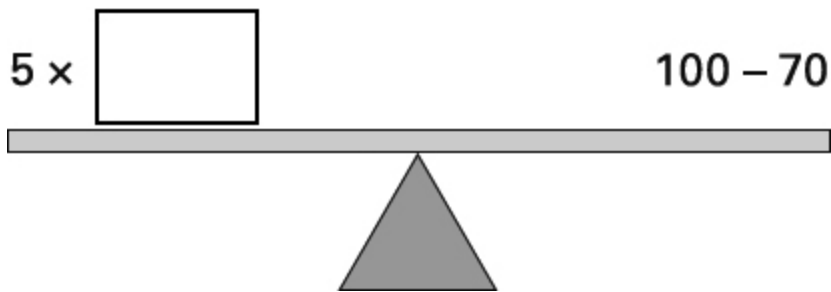
Marks: **114 marks**

Comments: **Based on the unit of work we covered 3 to 4 weeks ago**

1.

Each side of the number balance has the same answer.

Write in the missing number.



1 mark

2.

Five children share a bag of cherries.



Each child gets **6** cherries.

There are **3** cherries left over.

How many cherries were in the bag altogether?

1 mark

3.

Write a **different** digit in each box to make these correct.

3		×	2	=		8
---	--	---	---	---	--	---

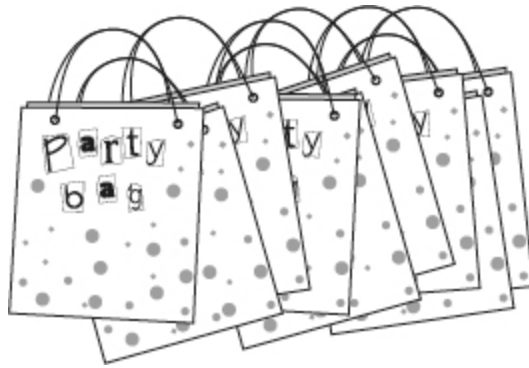
1 mark

3		×	2	=		8
---	--	---	---	---	--	---

1 mark

4.

Vijay buys 9 party bags.



Each bag costs 99p.

How much do they cost altogether?

1 mark

5.

Lauren buys 4 ice creams.

Each ice cream costs 85p.



How much do they cost altogether?

1 mark

6.

Here are some numbers.

1 2 3 4 5

Write one of the numbers in each box to make these correct.

$$5 \times 6 = 10 \times$$

$$5 \times 6 < 10 \times$$

1 mark

7.

Circle **all** the numbers that are **one more than a multiple of 4**

11 17 25 34 40 49

1 mark

8.

Here are three signs.

Write in the signs to make these correct.

100

10×10

100

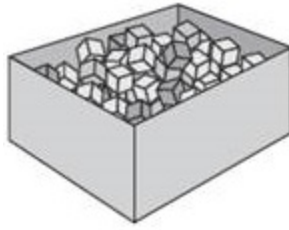
15×5

100

20×6

1 mark

Mark has a box of **130** bricks.



He uses some of the bricks to build a castle.

87 bricks are left over.

How many bricks has he used?

1 mark

Mark has **87** bricks left over.

He builds two more castles.

One castle uses **28** bricks and the other uses **36** bricks.

How many of his **87** bricks has he got left now?

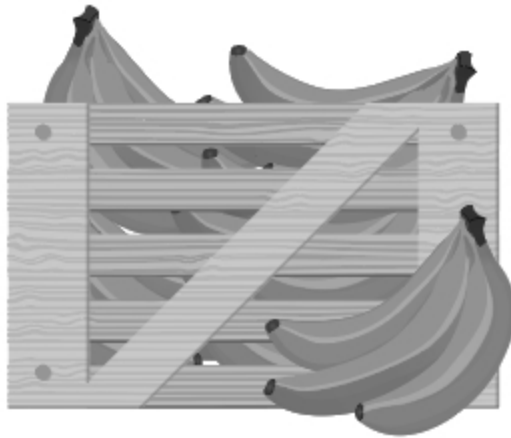
[illegible]

2 marks

10.

(a) There are **5 bananas** in a **bunch**.

There are **17 bunches** in a **crate**.



How many bananas are there altogether in a **crate**?

1 mark

(b) There are **5 bananas** in a **bunch**.



Kareem needs **70 bananas**.

How many **bunches** does he need?

1 mark

11.

Write the missing numbers.

$$67 + \boxed{} = 125$$

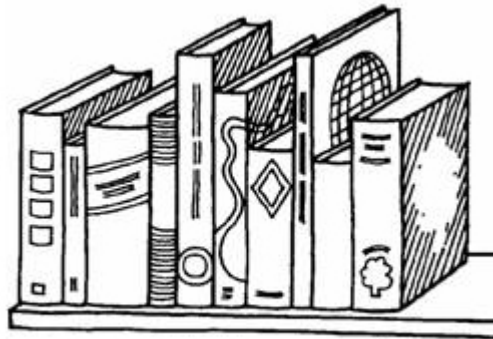
1 mark

$$5 \times \boxed{} = 225$$

1 mark

12.

Here is a book shelf.



One shelf holds **30** books.

(a) Sullivan has **96** books.

How many shelves does he need to hold **all** his books?

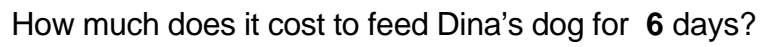
1 mark

(b) Lucy has **7** shelves **full** of books.

How many books does Lucy have altogether?

1 mark

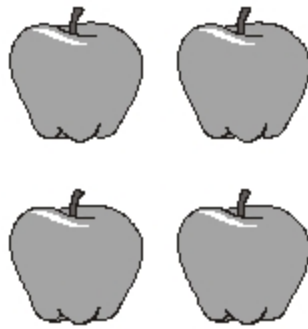
Dina's dog eats one tin of dog food each day.



2 marks

14.

Fruit



- (a) Jack buys **four** apples.

He pays with a **£2** coin.

He gets **£1.20** change.

How much does **one** apple cost?

1 mark

- (b) Oranges cost **15p** each.

Raj has a **£1** coin.



What is the greatest number of oranges Raj can buy with £1?

1 mark

15.

(a) Write the missing numbers in the boxes.

The first one is done for you.

98	$\xrightarrow{+1}$	99
98	$\xrightarrow{+10}$	
98	$\xrightarrow{+100}$	
98	$\xrightarrow{+1000}$	

2 marks

(b) Now write the missing number in the box below.

98	$\xrightarrow{\times 10}$	
----	---------------------------	--

1 mark

16.

Write the missing numbers in these multiplication grids.

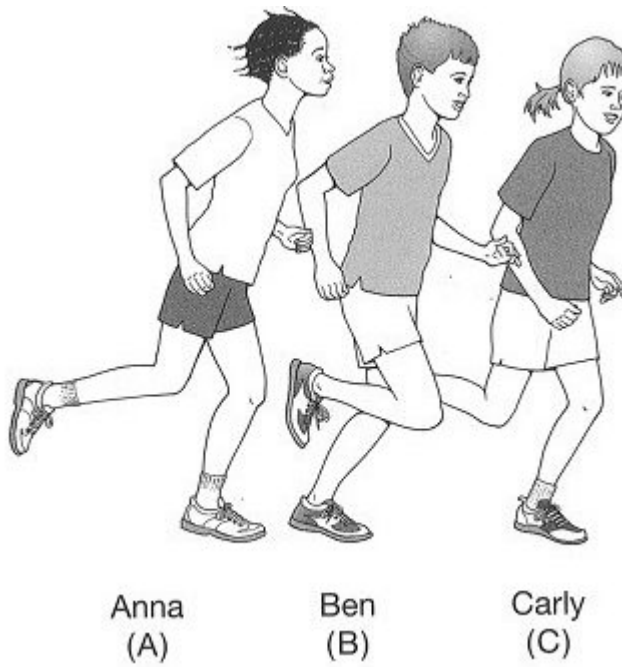
\times	3	5
6	18	30
4	12	_____

1 mark

×	_____	_____
_____	24	15
_____	16	10

2 marks

17. Anna, Ben and Carly are running a race.



Complete the table to show the **different orders** in which they could finish.

One order is done for you.

1st	2nd	3rd
A	B	C

2 marks

18.

Two numbers

I am thinking of two numbers.

When I **add** my numbers, the answer is **11**

When I **multiply** my numbers, the answer is **24**

What are my numbers?

and

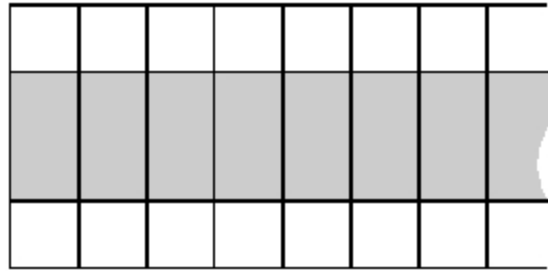
1 mark

19.

Track

Kerry makes a pattern from grey tiles and white tiles.

You cannot see all of the pattern but it continues in the same way.



- (a) Kerry uses **30 grey** tiles.

How many white tiles does she use?

white tiles

1 mark

- (b) Tim makes a pattern like Kerry's but he uses **64 white** tiles.

How many grey tiles does Tim use?

grey tiles

1 mark

20.

Multiplication grid

The table shows part of a **multiplication** grid.

Fill in the missing numbers.

x			8
2	8	14	16
	24		48
	28	49	56

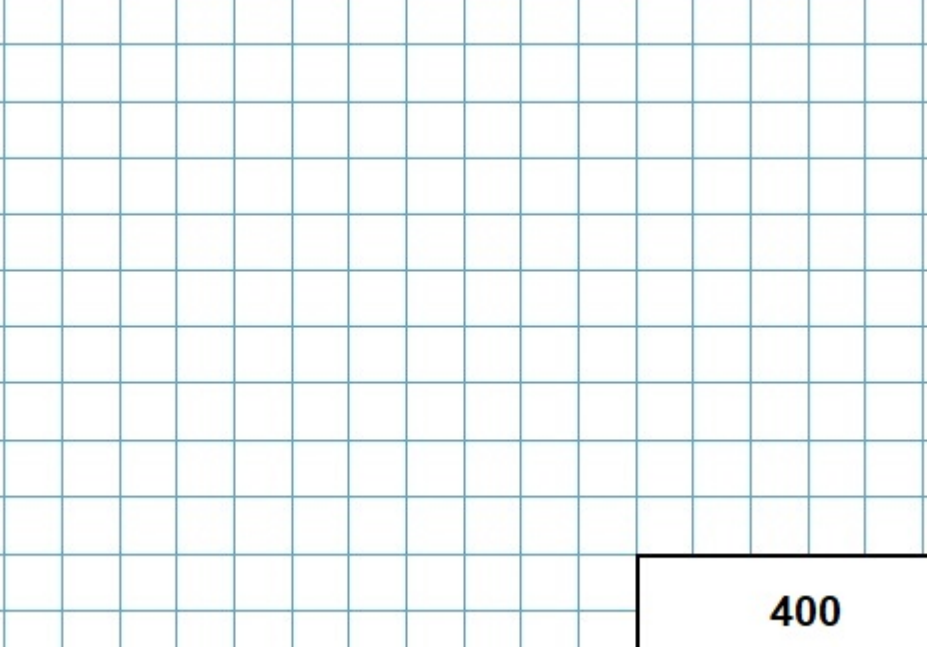
2 marks

21.

Jack worked out the correct answer to $50 \times 4 \times 2$

His answer was 400

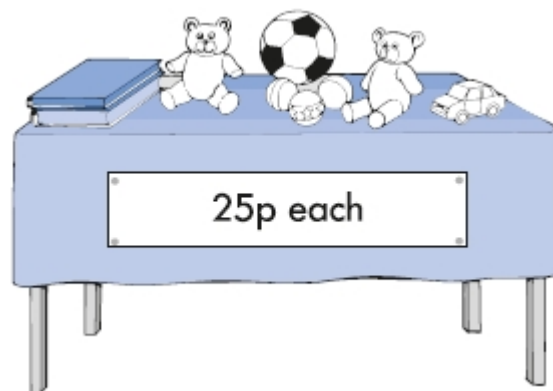




400

22.

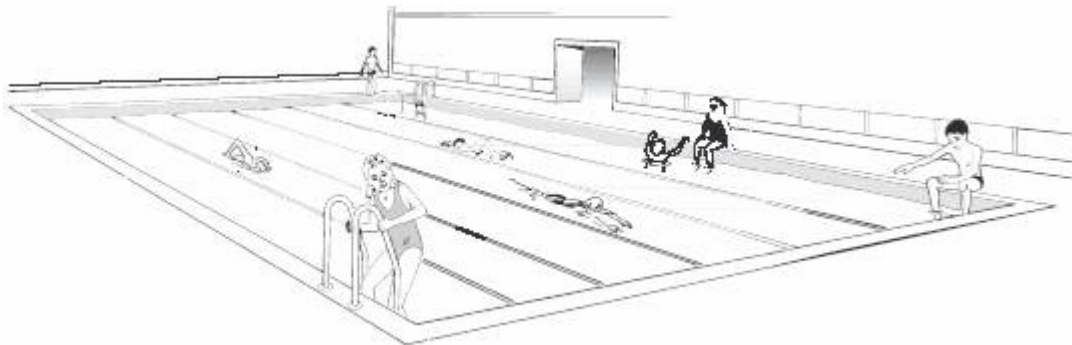
Jack buys **6** toys.



Show how you work it out in the box.

[illegible]

23.



(a) Jane swims **5** lengths of the pool.

metres

Page 16 of 77

(b) Kiz swims **225 metres** in the pool.

How many **lengths** does he swim?

lengths

1 mark

24.

Write the missing number.

double 36 = half of

1 mark

25.

Harry saves **20p** coins.

He has saved **£3.20**



Show how you work it out in the box.

Show
your
method

26.

$$300 \div 2 = \boxed{} \times \boxed{}$$

Page 18 of 77

27.

A bus ticket costs **25p**.



(a) How much will **5** of these tickets cost?

1 mark

(b) How many of these tickets can you buy for **£1.00**?

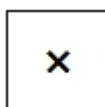
1 mark

28.

Use two of these numbers

250 750 2 2000 4

and this sign



to make **500**

1 mark

Dan says,

My answer is 38'



What number did Dan choose?

Show
your
method

2 marks

Here is a number chart that goes up in fives.

5	10	15	20	25
30	35	40	45	50
55	60	65	70	75
80	85	90	95	100
105	110	115	120	125

The chart continues in the same way.

One of the numbers below will be at the **start** of a **row** on the chart.
Circle the number.

445 455 465 475 485

1 mark

One of the numbers below will be at the **end** of a **row** on the chart.
Circle the number.

345 355 365 375 385

1 mark

31.

Write in the missing numbers.

One has been done for you.

$$\boxed{3} \longrightarrow \times 100 \longrightarrow \boxed{300}$$

$$\boxed{1\frac{1}{2}} \longrightarrow \times 100 \longrightarrow \boxed{}$$

$$\boxed{\frac{3}{4}} \longrightarrow \times 100 \longrightarrow \boxed{}$$

1 mark

32.

This is how to find the cost of hiring a car.

$$\text{cost of hiring a car} = 20 \times \text{number of days}$$

- (a) Leena hires the car for **10 days**.

How much must she pay?

£

1 mark

- (b) Later, Tom pays **£280** to hire the car.

For **how many days** does he hire the car?

days

1 mark

33.

How many?

- (a) How many **4s** are there in 40?

1 mark

- (b) How many **8s** are there in 40?

1 mark

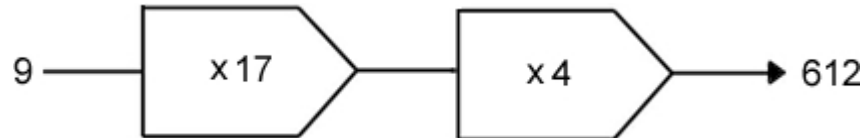
(c) How many **halves** are there in 40?

1 mark

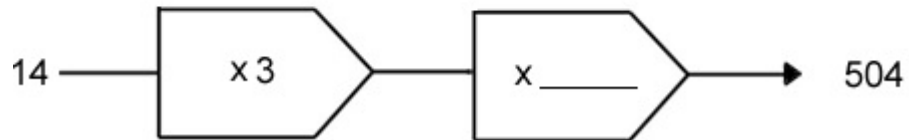
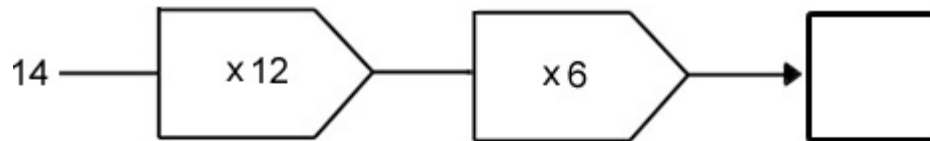
34.

Multiplying chain

Look at this multiplying chain.



Write the missing numbers in the multiplying chains below.



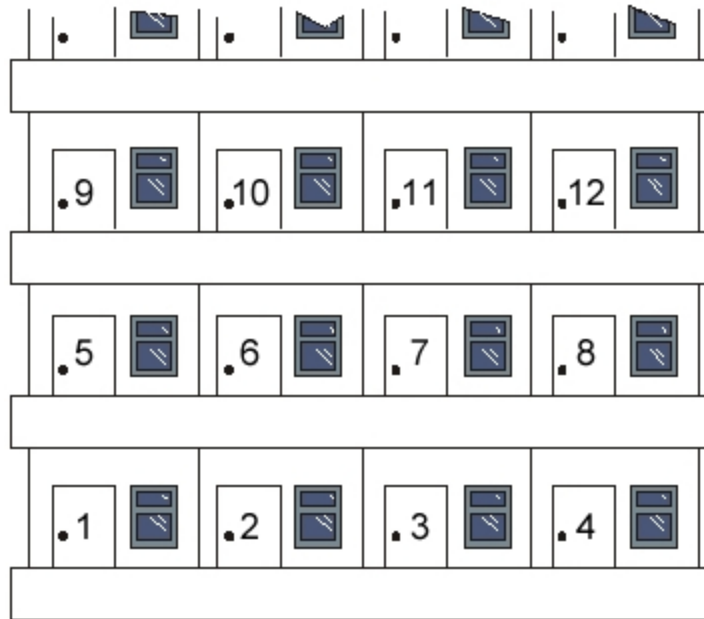
2 marks

35.

Flats

The diagram shows part of a block of flats.

There are **four** flats on each floor.



(a) What are the numbers of the flats on the 10th floor?

,

,

,

1 mark

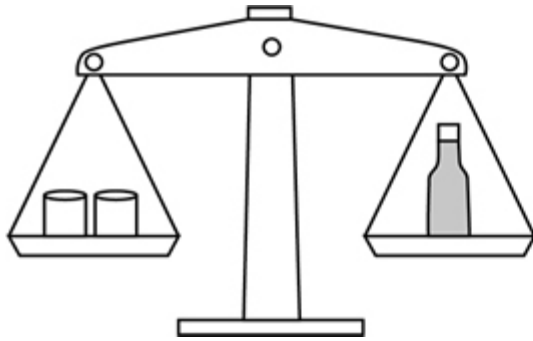
(b) On what floor is flat number **60**?

1 mark

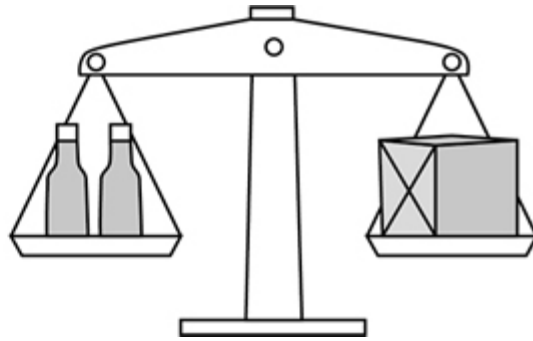
36.

Balancing

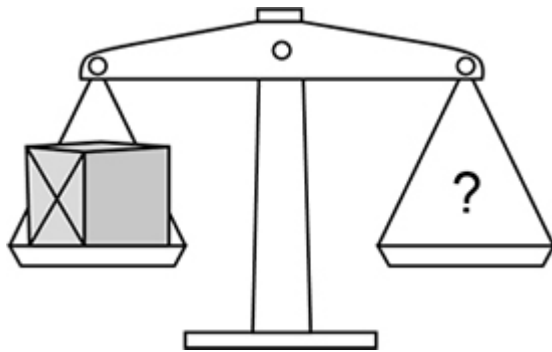
2 tins balance 1 bottle.



2 bottles balance 1 box.



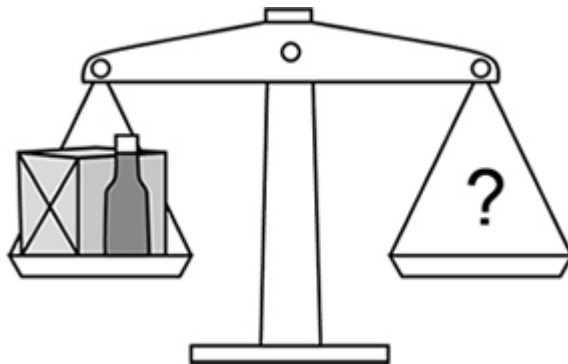
How many **tins** make each of these balance?



? =

tins

1 mark



? =

tins

1 mark

37.

Sales

A shop sells T-shirts and vests.



I have **£20**

(a) How many T-shirts could I buy with £20?

1 mark

(b) How many vests could I buy with £20?

1 mark

- (c) I buy **two T-shirts** and **two vests**.
How much change should I get from £20?

Show
your
method

£

2 marks

38.

Restaurant

The card shows the price of dinner at a restaurant.

Dinner
£14.95 each

- (a) **Twelve people** had dinner.
How much did they pay altogether?

£

1 mark

- (b) Another restaurant has different prices.

Dinner
adults £12.90 each
children half price

Two adults and their children had dinner.
They paid **£58.05** altogether.

How many children had dinner?

Show your method

children

2 marks

39.

Theatre

Rachel likes going to the theatre.

Each time she goes she pays for one ticket and one programme.

Ticket
£18.45

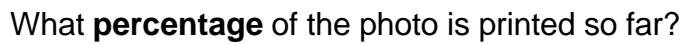
Programme
£2.50

Altogether, how much does she pay?

2 marks

Printing

- The **black** bar shows how much of the photo is printed so far.



1 mark

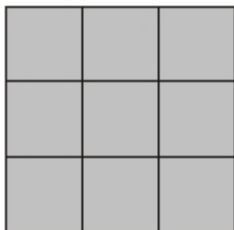
42. Square tiles

Mary and David have square tiles like this:



They arrange the tiles to make bigger squares.

Example: **9 tiles** can make a **3 by 3 square**.



- (a) Mary arranges **25 tiles** to make one square.

Complete the sentence below.

25 tiles can make a _____ by _____ square.

1 mark

- (b) David arranges **25 tiles** to make **two squares**.

His two squares are not the same size.

What are the sizes of David's squares?

First square: _____ by _____

Second square: _____ by _____

2 marks

43. Calculations

Write in the empty boxes what the missing numbers could be.

$$\boxed{} \times \boxed{} - \boxed{10} = \boxed{14}$$

$$\boxed{} \times \boxed{5} \times \boxed{} = \boxed{50}$$

2 marks

44.

Litres to gallons

A petrol station shows this information:

$$10 \text{ litres} = 2.2 \text{ gallons}$$

How many gallons is **50 litres**?

Show
your
method

gallons

2 marks

45.

Seventy-three

Look at these number cards.

(A)
730 000

(B)
73 000

(C)
7 300

(D)
730

(E)
7.3

(F)
0.73

(G)
0.073

Write the letter of the card that is

ten times as big as 73 _____

1 mark

one thousand times as big as 73 _____

1 mark

one hundredth of 73 _____

1 mark

46. Lots of lessons

In one school year, Chris goes to school for **39 weeks**.

In each of the weeks, he goes to **34 lessons**.

How many lessons is that altogether?

Show your method

2 marks

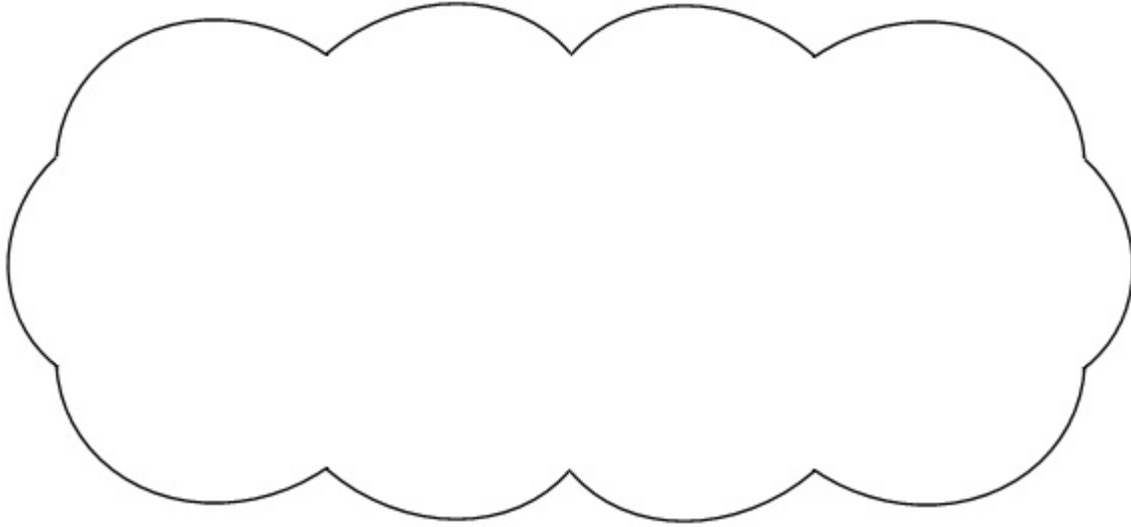
47.

Error

Marie wrote

$$594 \times 25 = 14852$$

Without doing the calculation, how can you tell her answer is **wrong**?



1 mark

48.

Contact lenses

Contact Lenses

Pay **£82 a year**,
and then just
£6 for each pair
of contact lenses you buy

In one year, Helen buys **18** pairs of contact lenses.

For that year, how much has she paid altogether?

Show
your
method

£

2 marks

49.**Coins**

- (a) A one franc coin is 2.35 cm in diameter.



↔
2.35 cm

I put **four** coins in a row.



↔ ? ↔

What is the length of the row?

cm

1 mark

- (b) Then I put **four** 25 cent coins in a row.

The length of the row is **7.4** cm.



↔ 7.4 cm ↔

What is the diameter of one 25 cent coin?



↔ ? ↔

cm

1 mark

(c) Then I make a row of alternate one franc coins and 25 cent coins.

I use **8 coins** altogether.



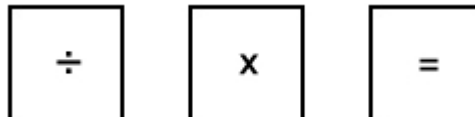
What is the length of this row of eight coins?

cm

1 mark

50.

Here are some signs.



Write two of the signs to make this correct.

$$104 \boxed{} 4 \boxed{} 26$$

1 mark

51.

75 children take part in a quiz.

There are **5** children in each team.



How many teams are there altogether?

1 mark

52.

Write in the missing number.

$$\boxed{} \div 4 = 25 \text{ remainder } 3$$

1 mark

53.

Here are some numbers.

6

2

32

5

Write each number in a box to make this number story correct.

There are sweets in a bag.

friends share them equally.

Each friend gets sweets.

sweets are left over.

1 mark

54.

Miss West needs **28** paper cups.

She has to buy them in packs of **6**



How many packs does she have to buy?

packs

1 mark

55.

What number is half of **550**?

1 mark

56.

Sita has **3m 60cm** of ribbon.

She cuts it into **3** equal pieces.



How long is each piece?

m	cm
---	----

1 mark

57.

A carton of orange fills **6** cups.

Mrs Green wants to fill **50** cups with orange.



How many cartons of orange does she need to buy?

Show how you work it out in the box.

Show
your
method

cartons

2 marks

58.

There are **440** drinking straws in a box.

There are **4** colours of straws.

There is the same number of each colour.



How many of **each** colour are in a box?

straws

1 mark

59.

230 children need to travel by bus.

Each bus holds **50** children.



How many buses are needed.

1 mark

Use two of these numbers each time to make an answer of **24**

<div></div>	\div	<div></div>	$= 24$
<div></div>	\div	<div></div>	$= 24$

There are **64** picture cards in this pile.



How many cards does each child take?

[illegible]

Page 43 of 77

62.

Luke buys **750** grams of apples.

Each apple weighs between **140** grams and **160** grams.

Circle the number of apples that Luke buys.

4

5

6

7

8

1 mark

63.

A teaspoon is **5 ml**.



How many spoonfuls can you get from this jar?

1 mark

64.

American dollars

£1 = 1.56 dollars

How much is **£1.50** in dollars?

dollars

1 mark

Mark schemes

1. Box completed as shown:

$$\begin{array}{c} 5 \times \boxed{6} \quad 100 - 70 \\ \hline \triangle \end{array}$$

[1]

2. 33

[1]

3. (a) Calculation completed as shown:

$$\boxed{3} \boxed{4} \times \boxed{2} = \boxed{6} \boxed{8}$$

OR

$$\boxed{3} \boxed{9} \times \boxed{2} = \boxed{7} \boxed{8}$$

1

- (b) Calculation completed using one of the above solutions not used to answer (a).

1
U1

[2]

4. £8.91 OR 891p

Accept £8.91p OR £8.91 pence OR £8-91 OR £8:91 OR £8 91 OR 891 OR 8.91
Do not accept £891p OR 8.91p

[1]

5. £3.40

Accept £3.40p OR £3 40 pence OR £3-40 OR £3:40 OR £3 40
Do not accept £340p OR £340

[1]

6. $5 \times 6 = 10 \times \boxed{3}$

$5 \times 6 < 10 \times \boxed{4 \text{ OR } 5}$

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

[1]

7. Three numbers circled as shown:

11 (17) (25) 34 40 (49)

All three numbers must be correct for the award of the mark.

Accept any other clear way of indicating the correct numbers, such as ticking or underlining.

[1]

8.

Boxes completed as shown:

100 10 × 10

100 15 × 5

100 20 × 6

All three answers must be correct for the award of the mark.

[1]

9.

(a) 43

1

(b) Award **TWO** marks for the correct answer of 23

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

- $87 - 28 - 36 = \text{wrong answer}$

OR

- $36 + 28 = 64$

$87 - 64 = \text{wrong answer}$

Working must be carried through to reach an answer for the award of **ONE** mark.

Up to 2m

[3]

10.

(a) 85

1

(b) 14

1

[2]

11.

(a) 58

1

(b) 45

1

[2]

12.

(a) 4

1

(b) 210

1

[2]**13.**Award **TWO** marks for the correct answer of £2.70*Accept £2.70p OR £2 70*

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg
 $45 \times 6 =$ wrong answer

OR

$$40 \times 6 = 240$$

$$5 \times 6 = 30$$

$$240 + 30 = \text{wrong answer}$$

ORAward **ONE** mark for £270 **OR** £270p **OR** £27.0 as evidence of appropriate working.*An answer must be given for the award of **ONE** mark.*

Up to 2m

[2]**14.**

(a) 20p

U1

(b) 6

Accept reference to the correct amount of money left over, eg

- 6 and 10p left over
- 6 r 10

***Do not** accept incorrect references, eg*

- 6.(...)
- 6 and 6p left over

1

[2]

15.

(a) Gives any two correct values, ie

$$\begin{array}{r} 108 \\ \hline 198 \\ \hline 1098 \end{array}$$

2

or Give any two correct values

1

(b) 980

1

[3]

16.

20

1

Gives four correct whole number values in the correct positions, ie

x	8	5
3	24	15
2	16	10

2

or Gives at least one correct value in the correct position in the top row and one correct value in the correct position in the left-hand column, eg

•

x		5
3		15

or

Gives values that work for two of the given products, provided none of these values is 1, eg

•

×	4	2
6	24	
5		10

•

×	12	7.5
2	24	15

Accept when response is correct but contains non-integer value(s)

Note that values in the left-hand column would be in the ratio 3 : 2, and those in the top row in the ratio 8 : 5

1
U2

[3]

17.

Gives all five correct orders with none incorrect or duplicated, eg

Finish 1st	Finish 2nd	Finish 3rd
A	B	C
A	C	B
B	A	C
B	C	A
C	A	B
C	B	A

2

or Gives at least three correct orders with not more than two incorrect or duplicated

1

[2]

18.

3 and 8, either order

U1

[1]

19.

(a) 60

1

(b) 32

1

[2]

20.

Table correct, ie

×	4	7	8
2	8	14	16
6	24	42	48
7	28	49	56

2

or Only one error or omission**! Follow through**

If the only error is an incorrect 6 or an incorrect 7, allow follow through leading to the entry for '42' eg, mark the following as 1, 0

×	4	7	8
2	8	14	16
9 error	24	63	48
7	28	49	56

1

[2]

21.

This mark may be awarded for children who have a method that communicates clearly how $50 \times 4 \times 2$ could have been calculated.

Award the mark if the method a child communicates clearly indicates that they have attempted to multiply the three numbers, eg by finding four lots of 50 then doubling the answer, using a complete method. (This method might be numerals, signs, words, diagrams or any mixture of these).

Do not accept only $50 \times 4 \times 2$ or rearrangements of this multiplication, e.g. $2 \times 4 \times 50$, since this merely restates the question.

U1

[1]

Examples of responses

1 mark

0 marks

Molly has split the calculation into two stages: she has multiplied 50 by four and then multiplied her answer by two. Although she has joined the second multiplication onto the end of the first, this is a complete and viable method that can be awarded the mark. Adam has recorded a multiplication that merely reorders the given numbers. Adam cannot be awarded the mark because his method does not demonstrate sufficient understanding of how to carry out the calculation.

$$50 \times 4 = 200 \times 2 = 400$$

Molly

1

$$4 \times 2 \times 50$$

Adam

0

Laila has split the multiplication into two stages: she has multiplied four by two and then multiplied her answer by 50. This is a complete method that can be awarded the mark. Victoria has recorded two multiplications that each show a possible first stage of the multiplication. However, she has not completed either of them and cannot be awarded the mark.

$$4 \times 2 = 8 \quad 50 \times 8 = 400$$

Laila

1

$$50 \times 4 = 200$$

$$4 \times 2 = 8$$

Victoria

0

William has described adding four lots of 50 to represent 50×4 . He has then described adding two lots of the answer to his first calculation to represent the final stage of multiplying by two. The method that he describes is both complete and viable so it can be awarded the mark. The first stage of Emma's description is similar to William's. However, her description of the second stage is ambiguous. Therefore we cannot treat Emma's method as complete or viable and cannot award her the mark.

Well I made 400 by adding 4 50s and added 200 one to the other 200 to make 400

William

1

50 count four times then do the same with 200

Emma

0

Jonah recorded four lots of 50 to represent 50×4 and then chose to multiply this by two to complete the given calculation. This is a complete method that can be awarded the mark. Karen recorded two lots of 50 to represent 50×2 . However, she failed to show a way of multiplying her answer by four and instead added 300 to make 400. While Karen has shown a way to make 400, her method does not show how to work out the given multiplication and therefore cannot be awarded the mark.

$$\begin{array}{r} 50 \ 50 \ 50 \ 50 \\ \times 2 = 400 \\ \hline 400 \end{array}$$

Jonah

①

$$\begin{array}{r} 50 + 50 = 100 \\ 100 + 300 = 400 \\ \hline 400 \end{array}$$

Karen

①

Lucy has laid out her additions of 50 in the form of a four by two array and has used her knowledge that 50 multiplied by two equals 100. She has then gone on to add four lots of 100 to reach 400. This is an efficient method that can be awarded the mark. Dylan has also added four lots of 100. However, he does not show how his hundreds relate to $50 \times 4 \times 2$. Therefore we cannot treat his method as complete or viable and cannot award him the mark.

$$\begin{array}{r} 50 \ 50 \ 50 \ 50 \\ + \ + \ + \ + \\ 50 \ 50 \ 50 \ 50 \\ \hline 100 + 100 + 100 + 100 = 400 \\ \hline 400 \end{array}$$

Lucy

①

$$\begin{array}{r} 100 + 100 + 100 + 100 \\ \hline 400 \end{array}$$

Dylan

①

Dhruv has repeatedly added 50. He knows that four times two equals eight and has therefore added 50 eight times. His method is complete, so it can be awarded the mark. Neil has recorded a pattern of multiplications that shows multiplication by 50. However, an error in his multiplications resulted in him stopping at 50×7 . Therefore his method is incomplete and cannot be awarded the mark.

$$\begin{array}{r} 50 \\ 100 \\ 150 \\ 200 \\ 250 \\ 300 \\ \hline 400 \end{array}$$

Dhruv

①

$$\begin{array}{r} 50 \times 1 = 50 \\ 50 \times 2 = 100 \\ 50 \times 3 = 150 \\ 50 \times 4 = 200 \\ \hline 400 \end{array}$$

Neil

①

22.

50p or £0.50

This mark may be awarded for children who have the **wrong answer** but have recorded a complete method which, without arithmetical errors, would give the correct answer.

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

*For **two marks**, accept 50, 0.50, £0.50p, £0-50, £0:50, £0 50 (with a clear space between 0 and 5) or fifty pence written in words.*

A child with a correct answer can be awarded two marks even if they have failed to record a correct method or any method at all, since it can be assumed that they used a correct mental method to reach their answer.

2
U1

OR

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

*For **one mark**, accept a correct value with incorrect use of units as evidence of a complete method, eg £50, 0.50p or £50p.*

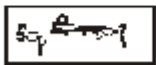
Do not accept £1.50 for one mark.


*One mark may be awarded to children who have failed to record the correct answer, provided they have demonstrated a complete method for finding six lots of 25p **and** then finding the difference between this value and £2. (This might be numerals, signs, words, diagrams or any mixture of these).*

1

[2]**Examples of responses****1 or 2 marks****1 or 0 marks**

Abbie can be awarded two marks for a correct answer even though she has not recorded a method. Taylor has recorded the same number as Abbie but has used incorrect units of money. Taylor has not recorded a method. However, we can assume that he used an appropriate mental method since he has reached the correct numerical answer even though he has not used money notation correctly. Taylor can be awarded one mark despite the use of incorrect units.

	Abbie
	①
	①
	

	Taylor
	①
	①
	

Maisie has attempted to find six lots of 25p, but has recorded an incorrect answer. She has then correctly counted on from her answer up to £2. Despite the arithmetical error in the first stage of her calculation she has recorded a complete method that can be awarded one mark. Aisha has correctly found the difference between £1.75 and £2. However, we do not know how she reached the value £1.75. Therefore her method is not complete and cannot be awarded a mark.

$$25p \times 6 = £1.40$$

$$£1.4 \text{ up to } £2.00 = 60p$$

60p

Maisie

1

0

$$£1.75 + 25p = £2.00$$

$$50 \text{ } 40 \text{ } 15 \text{ } 25p$$

25p change

Aisha

0

0

Mohammed has attempted to add six lots of 25p. However, he has made an arithmetical error in his addition. He has then proceeded to correctly find the difference between his answer and £2. Despite the arithmetical error his method is complete and, without arithmetical error, would give the correct answer. He can therefore be awarded one mark. George has also attempted to add six lots of 25p but has failed to recognise the need to complete the second stage of the problem. His method is not complete and cannot be awarded a mark.

$$25 + 25 + 25 + 25 + 25 + 25$$

$$\swarrow \quad \searrow \quad \swarrow \quad \searrow \quad \swarrow \quad \searrow$$

$$50 \quad 45 \quad 130$$

70p

Mohammed

1

0

$$25 + 25 = 50$$

$$50 + 25 = 75$$

$$75 + 25 = 100$$

$$100 + 25 = 125$$

$$125 + 25 =$$

George

0

0

Kieran started with £2 and counted back 25p six times. However, he has made an arithmetical error in one of the steps in his calculation to reach an incorrect final answer. Kieran's method is complete and, without this error, would have led to the correct answer. He can be awarded one mark. Erin has worked out the answer to five lots of 25p instead of six lots of 25p. Even though she has found the difference between her answer and £2, she cannot be awarded a mark since the first stage of her method is incorrect.

$$\begin{array}{r} 200p \\ - 25p \\ \hline 175p \\ - 25p \\ \hline 150p \\ - 25p \\ \hline 125p \\ - 25p \\ \hline 100p \\ - 25p \\ \hline 75p \\ - 25p \\ \hline 50p \\ - 25p \\ \hline 25p \end{array}$$

25p

Kieran

1

0

$$4 \times 25p = 100$$

$$100 + 25p = 125$$

$$125 + 25p = 150$$

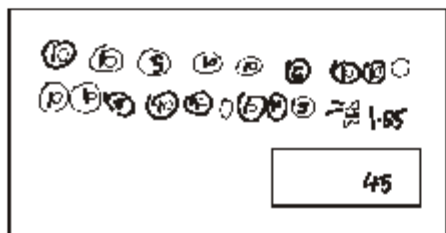
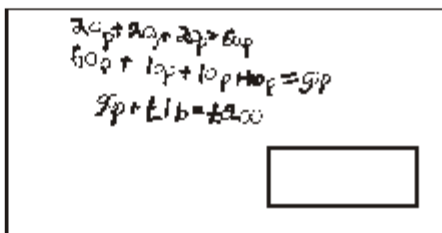
75p

Erin

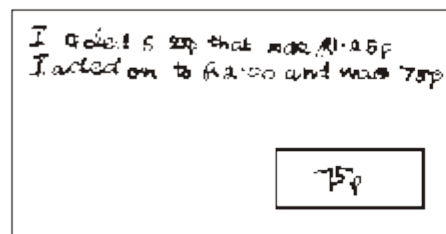
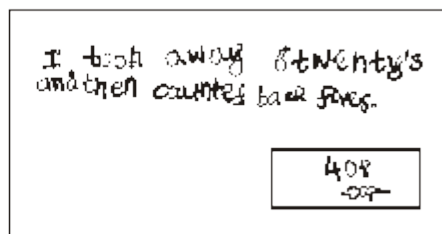
0

0

Daria has recorded a pictorial method to show six lots of two 10p coins and a 5p coin. Although she incorrectly totalled these to reach £1.55 she correctly found the difference between £1.55 and £2. Apart from the arithmetical error, her method is complete and can be awarded one mark. Elijah has attempted to partition. However, he has only taken account of three lots of 20p rather than six lots. Even though the additions are completed correctly and he found the difference between his total and £2, his method is not complete. Elijah cannot be awarded the mark.

	<p>Daria</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div><input type="radio"/> 1</div> <div><input type="radio"/> 0</div> </div>		<p>Elijah</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div><input type="radio"/> 0</div> <div><input type="radio"/> 0</div> </div>
---	--	--	---

Liam has described a method that involves adding six lots of 25p and finding the difference between his answer and £2. However, he has made an arithmetical error in the first stage of his calculation. Apart from this error his method is complete and can be awarded one mark. Nicole has partitioned 25p into 20 and 5. She has described counting back six lots of 20p and recorded 80p in the answer box. She then realised that she needed to count back in fives but was unclear about the number of fives that she needed to count back. Her method is incorrect so she cannot be awarded a mark.

	<p>Liam</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div><input type="radio"/> 1</div> <div><input type="radio"/> 0</div> </div>		<p>Nicole</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div><input type="radio"/> 0</div> <div><input type="radio"/> 0</div> </div>
---	---	--	---

- 23.**

24.

25.

(a) 125 (metres)

(b) 9 (lengths)

144

16 (coins)

1

1

[2]

[1]

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

A child with a correct answer can be awarded two marks even if they have failed to record an appropriate method or any method at all, since it can be assumed that they used a correct mental method to reach their answer.

OR

This mark may be awarded for children who have a **wrong answer** between 13 and 19 inclusive **and** a **complete and correct method** that is communicated clearly.

*Use the acceptable and unacceptable responses below to help make your decision.
If mark awarded, enter a 1 then 0 in the mark boxes.*

*One mark may be awarded to children who have failed to record the correct answer, provided they have demonstrated a complete and correct method for identifying the number of 20p coins needed to make £3.20 **and** have given an answer between 13 and 19 inclusive. (This method might be numerals, signs, words or diagrams or any mixture of these.)*

[1]

Examples of responses

Children who record a correct answer should automatically be awarded two marks.

Adam can be awarded two marks for reaching the correct answer even though his method is not described clearly. Victoria has recorded a value that is close to the correct answer of 16. However, since she has not recorded her method we cannot assume that it was either correct or complete.

Therefore Victoria cannot be awarded any marks.

Adam

1 or 2 marks

<div style="border: 1px solid black; padding: 10px; width: 250px;"><p>I worked it out on my fingers.</p><div style="border: 1px solid black; display: inline-block; padding: 2px 5px; margin-top: 10px;">16 coins</div></div>	<p>Adam</p> <div style="display: flex; flex-direction: column; align-items: center; gap: 10px;"><div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">1</div><div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">1</div></div>
---	--

Victoria

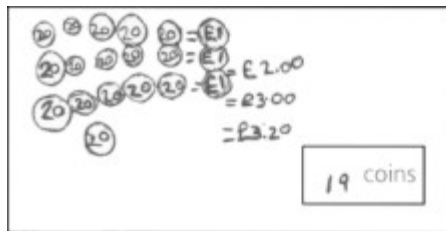
0 marks

<div style="border: 1px solid black; padding: 10px; width: 250px;"><div style="border: 1px solid black; display: inline-block; padding: 2px 5px; margin-top: 10px;">17 coins</div></div>	<p>Victoria</p> <div style="display: flex; flex-direction: column; align-items: center; gap: 10px;"><div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">0</div><div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">0</div></div>
--	--

Children must record a complete and correct method for the award of the mark *and* indicate an answer between 13 and 19 inclusive. Holly has clearly recorded the number of 20p coins needed to make £3.20. She has made an error in counting to reach an answer of 19. Holly can be awarded the mark since, despite the counting error, her method is correct and complete and her answer is in the given range. Jordan has recorded one way to reach £3.20 and has recorded an answer in the given range. However, his method is not worth any marks since he has not recorded a strategy for counting the 20p coins needed.

Holly

1 or 2 marks



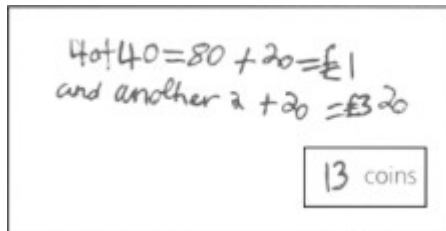
Holly

1

0

Jordan

0 marks



Jordan

0

0

Children must record a complete and correct method for the award of the mark *and* indicate an answer between 13 and 19 inclusive. Steven has drawn the correct number of coins needed to make £3.20. Since he has recorded a complete and correct method he may be awarded the mark, because although his answer is incorrect it is in the given range. Parveen has recorded three hundreds plus more coins. However, her method is incomplete since she has not demonstrated how she would work out the number of 20p coins needed. Parveen cannot be awarded any marks.

Steven

1 or 2 marks

Steven

1

0

Parveen

0 marks

Parveen

0

0

Children are required to give a correct answer between 13 and 19, along with a complete and correct method. Sanjay has counted up in twenties until he reached 320. Although he has made an error in numbering each 20, he can be awarded the mark for a complete and correct method within the correct range. Louisa has also recorded an answer in the correct range. However, her method is not complete since although it is clear what each five represents in her addition it is not clear what the two represents. Louisa cannot be awarded the mark.

Sanjay

1 or 2 marks

Sanjay

1

0

Louisa

0 marks

Louisa

0

0

Alice

$20 + 20 = 40$ $40 + 20 + 20 = 80$
 $\frac{80}{20} = 4$ $20 + 20 + 20 + 20 + 20 = 100$
 $\frac{100}{20} = 5$ $20 + 20 + 20 + 20 + 20 + 20 = 120$
 $\frac{120}{20} = 6$ $20 + 20 + 20 + 20 + 20 + 20 + 20 = 140$
 $\frac{140}{20} = 7$ $20 + 20 + 20 + 20 + 20 + 20 + 20 + 20 = 160$
 $\frac{160}{20} = 8$ $20 + 20 + 20 + 20 + 20 + 20 + 20 + 20 + 20 = 180$
 $\frac{180}{20} = 9$ $20 + 20 + 20 + 20 + 20 + 20 + 20 + 20 + 20 + 20 = 200$
 $\frac{200}{20} = 10$

1

0

20, 40, 60, 80
£1.00 £1.20 ~~£1.40~~ £1.60 £1.80
£2.00 ~~£2.20~~ £2.40 £2.60
£2.80

15 coins

0

0

Children who give a written description of what they do must describe a complete and correct method, along with an answer between 13 and 19. Tonya has shown that five 20p coins make £1, and that three lots of five and one more coin make £3.20. Tonya's method is complete and correct, but with an arithmetic error in the calculation. Therefore she can be awarded the mark since her answer is in the given range. Harvey has said that he counted in twenties. However, he has not recorded how he counted in twenties or that he counted until he reached £3.20. Even though Harvey has recorded an answer in the given range, he cannot be awarded the mark since his method is not complete.

Tonya

1 or 2 marks

I already know that 5 twentys make a pound so I worked out 5×3 and added on another 20

13 coins

Tonya

1

0

Harvey

0 marks

I counted in 20s and I got up to 15 20p's

15 coins

Harvey

0

0

26. Writes any one of these factor pairs, in either order:

- 1 × 150;
- 2 × 75;
- 3 × 50;
- 5 × 30;
- 6 × 25;
- 10 × 15.

Accept also any correct answer that uses fractions, eg $300 \times \frac{1}{2}$

[1]

27. (a) £1.25

Accept also £1-25 or £1.25 or £ 1 25 (space between 1 and 25 must be clear), or any of these in words.

Do not accept £125

1

(b) 4 (tickets)

1

[2]

28.

Either 2×250 or 250×2 .

[1]

29.

Award **two** marks for the correct answer of 9

If both marks are awarded, record by entering 1 in each marking space.

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

$$38 + 7 = 45$$

$$45 \div 5 = \text{wrong answer}$$

OR

A 'trial and improvement' method, eg

$$12 \times 5 - 7 = 53$$

$$7 \times 5 - 7 = 28$$

$$10 \times 5 - 7 = 43$$

*A 'trial and improvement' method must show evidence or improvement, but a final answer need not be reached for the award of **ONE** mark.*

*Award **ONE** mark by entering 1, 0 in the marking spaces.*

Up to 2m

[2]

30.

(a) One number circled as shown:

445 **455** 465 475 485

Accept any other clear way of indicating the correct number, such as ticking or underlining.

U1
1

(b) One number circled as shown:

345 355 365 **375** 385

Accept any other clear way of indicating the correct number, such as ticking or underlining.

U1
1

[2]

31.

Two boxes completed as shown:

$$\boxed{3} \longrightarrow \times 100 \longrightarrow \boxed{300}$$

$$\boxed{1\frac{1}{2}} \longrightarrow \times 100 \longrightarrow \boxed{150}$$

$$\boxed{\frac{3}{4}} \longrightarrow \times 100 \longrightarrow \boxed{75}$$

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

[1]

32.

(a) £ 200

1

(b) 14

1

[2]

33.

(a) 10

Accept throughout the question, responses embedded, eg, for part (a)

• 10×4

1

(b) 5

! Follow through

For part (b), accept follow through as their (a) $\div 2$

1

(c) 80

! Follow through

For part (c), accept follow through as either their (a) $\times 8$ or their (b) $\times 16$

1

[3]

34.

1008

1

24

1

[2]

35.

(a) Gives the values 37, 38, 39, 40 in any order

1

(b) 15

U1

[2]

36.

4

1

6

1
U1

Accept follow through as their first mark + 2

[2]

37.

(a) 8

1

(b) 10

! Reference to money left over

Do not accept fractions of vests, eg

- 10.05

However, accept reference to a remainder, even if incorrect, eg

- 10 with 10p change
- 10 r1

1

(c) £ 11.02

2

or Shows the digits 1102, eg

Shows the digits 898

or

Shows a complete correct method with not more than one error, eg

- $2 \times 2.5 + 2 \times 1.99$ then subtract from 20
- $20 - (5 + 3.98)$
- $2 \times 2.5 = 5$
 $2 \times 1.99 = 2.99$ (error)
 $20 - (2.99 + 5) = £ 12.01$

or

- The only error is to use only one T-shirt and one vest, eg
£ 15.51

! For 1m, necessary brackets omitted

As this is a level 4 mark, condone, eg accept

- $20 - 5 + 3.98$

1

[4]

38.

(a) £ 179.40

1

(b) 5

2

or Shows the digits 3225

or

Shows the value 2.5 or 4.5, or equivalent

or

Shows or implies a complete correct method with not more than one error, even if their final answer is not an integer, or is rounded or truncated, eg

- $12.90 + 12.90 + 6.45 + 6.45 + 6.45 + 6.45 + 6.45 = 58.05$

- $12.90 \times 2 = 25.80$, $58.05 - 25.80 = 23.75$ (*error*)

$$23.75 \div 6.45 = 3.68 \text{ so } 3$$

1
U1

[3]

39.

Award **TWO** marks for the correct answer of £104.75

If the answer is incorrect award **ONE** mark for

- evidence of an appropriate method, eg

- $(18.45 + 2.5) \times 5$

- $18.45 + 2.5(0) = 21$ (*error*)

$$21 \times 5 =$$

OR

- Showing the digits 10475

Up to 2

[2]

40.

(a) 25

1

(b) 5, with no evidence of an incorrect method

2

or Shows the value 300

or

Shows or implies that 3 photos take 1 minute

or

Shows or implies a complete correct method, eg

- $15 \times 20 \div 60$
- $15 \times 20 = 320$ (error), so 5 minutes 20 seconds

or

The only error is to assume that there are 100 seconds in 1 minute, eg

- Gives the answer 3

Do not accept correct answer from an incorrect method, eg

- $20 - 15 = 5$

1

[3]

41.

(a) 10

1

(b) 8

1

(c) £ 3

1

[3]

42.

(a) 5 by 5

1

- (b) 4 by 4
and
3 by 3, either order

U2

or Shows the values 16 and 9

or

Gives dimensions of a square and a rectangle, that use 25 tiles in total, eg

- 2 by 2
3 by 7
- 1 by 1
6 by 4

Do not accept fractions or decimals

1

[3]

- 43.** Gives a pair of numbers with a product of 24
Accept fractions, decimals or negatives

1

Gives a pair of numbers with a product of 10

1

[2]

- 44.** 11

2

or Shows a complete correct method with not more than one computational error, eg

- 2.2×5
- $2.2 + 2.2 + 2.2 + 2.2 + 2.2$
- $2.2 \times 10 = 22$
- $22 \div 2$

Do not accept conceptual error, eg

- $2.2 \times 5 = 10.10$

•
$$\begin{array}{r} 2.2 \\ \times 5 \\ \hline 110 \end{array}$$

1

[2]

- 45.** D (or 730)

1

B (or 73 000)

1

F (or 0.73)

1

[3]

46.

1326

2

or Shows a correct method with not more than one computational error, eg

$$\begin{array}{r} 39 \\ 34 \\ \hline 1170 \\ 154 \text{ (error, should be 156)} \\ \hline 1324 \end{array}$$

$$\begin{array}{r} 34 \\ 39 \\ \hline 309 \text{ (error, should be 306)} \\ 1020 \\ \hline 1329 \end{array}$$

$$39 \times 34 = 78 \times 17 = 780 + 546 = 1226 \text{ (error)}$$

$$340 + 340 + 340 + 340 = 1360, 1360 - 34$$

$$34 \times 4 = 136, 34 \times 40 = 1360, 1360 - 34$$

Do not accept conceptual error

*Do not accept repeated addition as a correct method,
ie $34 + 34 + 34 + \dots$*

1

[2]**47.**

Correct explanation, eg

- Must end in zero
- Multiples of 25 end in 0 or 5
- Multiples of 25 end in 00, 25, 50 or 75
- Anything $\times 5$ ends in 0 or 5
- A number that ends in 2 won't divide by 5 exactly
- 4×5 doesn't end in 2
- $594 \times 25 = 148.5 \times 100$ so it ends in zero

Do not accept calculation of 594×25 seen

Do not accept Incorrect statement eg

Multiples of 5 end in 5 or 10

[1]

48.

£190

2

or Shows the digits 108

or

Shows the correct method of $18 \times 6 + 82$

Accept repeated addition for 18×6

Shows the digits 190 with the decimal point misplaced, eg

- 1.90
- 1900

1

[2]

49.

(a) 9.4

! Rounded values

Accept only if a more accurate value or correct method seen

1

(b) 1.85

Accept equivalent values, eg, for part (a)

- 9.40

1

(c) 16.8

Accept follow through

In part (c), follow through as any of the following:

(a) + 7.4, or

[2.35 + (b)] \times 4, or

(a) + 4 \times (b)

1

[3]

50.

Boxes completed as shown:

$$104 \div 4 = 26$$

OR

$$104 = 4 \times 26$$

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

[1]

51.

15

[1]

52.

103

[1]

53.

Boxes completed as shown:

There are sweets in a bag.

friends share them equally.

Each friend gets sweets.

sweets are left over.

OR

There are sweets in a bag.

friends share them equally.

Each friend gets sweets.

sweets are left over.

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

U1

[1]

54.

5 (packs)

Do not award the mark for answers of 4, 4 and a bit, 4 remainder 4, or equivalent.

[1]

55.

275

[1]

56.

1 (m) 20 (cm)

[1]

57.

9 (cartons)

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

! A child with a correct answer can be awarded two marks even if they have failed to record an appropriate method or any method at all, since it can be assumed that they used a correct mental method to reach their answer.

2
U1

OR

This mark may be awarded for children who:

- (a) have the **wrong answer** but a **complete and correct method** that is communicated clearly;

OR

- (b) have written a number greater than 8 and less than 9, or 8 remainder 2 as evidence of an appropriate method.

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

! One mark may be awarded to children who have failed to record the correct answer provided they have demonstrated a complete and correct method for sharing 50 cups into groups of six. (This method might be numerals, signs, words or diagrams or any mixture of these.)

1

Use the acceptable and unacceptable responses given below to help make your decision.

[2]

Examples of responses

A child who gives an answer that is *greater than 8 and less than 9* should be awarded one mark.

For this question it is possible for children to identify a correct method and complete their calculation correctly, yet fail to be awarded two marks because they do not interpret their answer in the context of the question. Sunita has not recorded a method. However, she can be awarded one mark because she has given $8\frac{1}{2}$ as her answer. Thomas has given $9\frac{1}{2}$ as his answer, therefore we cannot assume that he used a correct method. Thomas cannot be awarded a mark.

Sunita

1 mark

<div style="border: 1px solid black; padding: 5px; display: inline-block;">$8\frac{1}{2}$ cartons</div>	<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 5px;">1</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 5px;">0</div>
--	---

Thomas

0 marks

9 $\frac{1}{2}$ cartons

Children who do not give an answer between 8 and 9 must record a complete and correct method for the award of the mark.

Chen recognises that $5 \times 6 = 30$, he then builds on this to deduce that $7 \times 6 = 42$ and adds another 6 plus 2.

However, he incorrectly interprets his method to reach an answer of $7\frac{1}{2}$. Chen has recorded a complete and correct method, despite the error in his calculation. Since Chen's method is complete and correct he can be awarded one mark even though his answer is outside the given range. Rachel has recorded correct calculations. However, her method is not complete since she did not take account of all 50 cups. Consequently her answer is outside the allowed range, so she cannot be awarded any marks.

Chen

1 mark

$$5 \times 6 = 30 + 6 = 36$$
$$6 \times 6 = 36 + 6 = 42$$
$$7 \times 6 = 42 + 6 = 48 + 2 = 50$$

7 and a half cartons

Rachel

0 marks

$$12 \times 2 = 24$$
$$24 \times 2 = 48$$

8 cartons

Children must record a complete and correct method, if their answer is outside the given range, for the award of the mark.

Jenny has recorded an answer outside the given range. However, she can be awarded the mark for a complete and correct method that accounts for 48 cups plus a few more. Bradley has recorded calculations that involve adding 12, the number of cups that can be filled with two cartons. However, his method is not correct as he does not show any awareness that he should consider adding just one more carton as he nears the told number of cups required. His response could indicate that he has decided that two more cartons were required after 48 cups, rather than two more cups. This takes his answer outside the allowed range, so Bradley cannot be awarded a mark.

Jenny

1 mark

$$6+6+6+6+6+6+6+6=48$$

$$48+2\frac{1}{2}\text{ pot}=8$$

8 cartons

1

0

Bradley

0 marks

~~12~~

$$12+12=24+$$

$$12=36+6+12=48+12=50$$

10 cartons

0

0

Children who do not give an answer between 8 and 9 must record a complete and correct method for the award of the mark.

James has recorded an answer between 8 and 9 so he can be awarded the mark. However, even if his answer was outside the given range he could be awarded the mark since he has recorded a complete and correct method. Like James, Rifat has drawn cartons to help her solve the problem. However, Rifat has not recorded all 50 cups. Therefore, her method is not complete and she cannot be awarded the mark since her answer is outside the allowed range.

James

1 mark

6

12

18

24

30

36

42

48

54

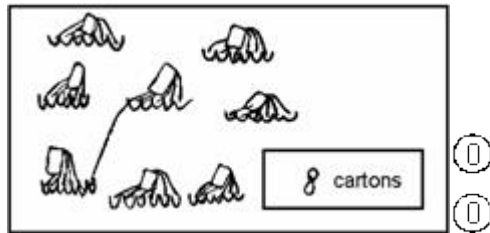
8 cartons and 1 glass

1

0

Rifat

0 marks

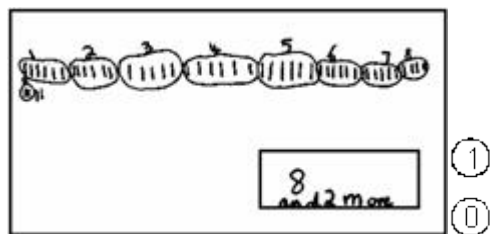


Children must record a complete and correct method, if their answer is outside the given range, for the award of the mark.

Abena has recorded the answer '8 and 2 more'; this can be awarded the mark because it shows a value that is greater than eight and less than nine. However, even if her answer had been outside the range she could be awarded the mark for a complete and correct method. Like Abena, Hasan has drawn cups to help him solve the problem. However, Hasan has only recorded 42 cups and written '+6 more'. He has not taken account of all 50 cups, so his method is not complete and he cannot be awarded the mark since his answer is outside the allowed range.

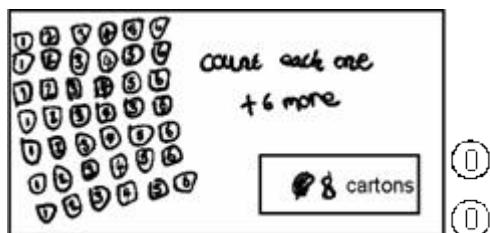
Abena

1 mark



Hasan

0 marks



Children must record a complete and correct method, if their answer is outside the given range, for the award of the mark.

Megan has identified a complete and correct method for solving the problem. Even though her answer shows limited understanding of division she may nevertheless be awarded the mark for showing a complete and correct method. Owen has attempted to use a number line method. However, Owen's method is not correct since his number line does not start at zero and he has not counted one carton for the first six cups; he cannot be awarded the mark.

Megan

1 mark

$50 \div 6 = 12$

12 cartons

Owen

0 marks

$6 + 6 = 12$
 $12 + 6 = 18$
 $18 + 6 = 24$
 $24 + 6 = 30$
 $30 + 6 = 36$
 $36 + 6 = 42$
 $42 + 6 = 48$
 $48 + 6 = 54$

8 cartons

58.

110 (straws)

[1]

59.

5 (buses)

5 must be present. Ignore any additional information, eg '20 more children needed to fill up the bus'.

[1]

60.

1 mark **each** for **any two** of these:

$$240 \div 10 = 24$$

$$48 \div 2 = 24$$

$$120 \div 5 = 24$$

If all three solutions are given, mark the two in the boxes (or the first two) only.

[2]

61.

Award **TWO** marks for the correct answer of 8

If both marks are awarded, record by entering 1 in each marking space.

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

$$64 - 24 = 40$$

$$40 \div 5 = \text{wrong answer}$$

The working must be carried through to reach an answer for the award of **ONE** mark.

Award **ONE** mark by entering 1, 0 in the marking spaces.

Up to 2m

[2]

62.

One number circled as shown:

4 5 6 7 8

Accept any other clear way of indicating the correct number, such as ticking or underlining.

U1

[1]

63.

65 (spoonfuls)

[1]

64.

2.34

! Incorrect units inserted

Ignore

Do not accept equivalent fractions or decimals

[1]