## testbase

Name:

## Addition and Subtraction Revision

Class:
Date:
Time:
136 minutes
Marks:
133 marks

Comments:

1. Sarah has 90 p.

She buys a packet of sweets and a carton of juice.



30p

How much money does she have left?

2. Vijay weighs 29 kilograms.

Sarah weighs 8 kilograms more than Vijay.


Draw an arrow ( $\uparrow$ ) on the scale to show how much Sarah weighs.


1 mark
3. There are $\mathbf{2 1}$ children in Mr Bell's class.

The number of boys is one more than the number of girls.
How many boys and girls are there?


1 mark
4. On a school trip, 56 people visit the zoo.

23 are girls.
21 are boys.
5 are teachers.

The rest are parents.


How many are parents?

5. The numbers in this sequence increase by 101 each time Write in the next two numbers in the sequence.
$606 \quad 707 \quad 808$

6. There are three classes at Park School.

There are 78 children altogether.
Look at the table.

Children at Park School

| Class | Number of children |
| :--- | :---: |
| Class 1 | 23 |
| Class 2 | 30 |
| Class 3 | $?$ |

Calculate how many children ate in Class 3

7. Write six different numbers to make these sums correct.

8. The numbers on this number line go up by the same amount each time. Write the missing numbers in the boxes.

9. The numbers in this sequence increase by the same amount each time.

Write the two missing numbers.

10. Three numbers

Here are three numbers.

(a) What is the sum of the three numbers?


1 mark
(b) What is the difference between the largest number and the smallest number?


1 mark
(c) Write a calculation using all three numbers that gives the answer 10
11.

Sequence
Look at this number sequence.
Write the missing numbers in the boxes.

12. How much bigger?
(a) $32+47$ is bigger than $32+43$

How much bigger?


1 mark
(b) $7 \times 9$ is bigger than $6 \times 9$

How much bigger?


1 mark

## 13. Coins

Which of these coins make exactly £1.10?
Tick ( $\sqrt{ }$ ) them.


1 mark
14. Nisha writes:

$$
538+46=585
$$

Show why Nisha is wrong.

15. Every day Mrs Patel buys one newspaper.

The newspapers cost more on Saturdays and Sundays than on weekdays.


Saturday £1


Sunday £1.20


Monday to Friday 50 p each day

In one week, what is the total cost of her newspapers?

## £

1 mark
16. This sequence of numbers goes up in 10s.

(a) A different sequence of numbers goes up in 40s.

Write the missing numbers in this sequence.


2 marks
(b) Another sequence of numbers goes down in $\mathbf{1 5 s}$.

Write the missing numbers in this sequence.


2 marks
17. (a) The first odd number is 1

What is the sixth odd number?


1 mark
(b) The first five odd numbers add up to 25 What do the first six odd numbers add up to?


1 mark
18. Same values?

Here are two calculations.

$2 \times 16$
(a) Do the calculations have the same answer?


Show how you know.

(b) The calculations below have the same answer.

Write the missing number.

(c) Now write the missing number to make this calculation correct.

$$
7+8+9=8 \times
$$

$\qquad$
19. Write in the missing digits.

20. Five children share a bag of cherries.


Each child gets 6 cherries.
There are $\mathbf{3}$ cherries left over.
How many cherries were in the bag altogether?


1 mark
21. Dan has these coins.


Vijay has $£ 1.50$
How much more money does Dan have than Vijay?


2 marks
22. Zak has one 50 p coin and three 20p coins.

He buys a grapefruit and a melon.

grapefruit
45p each

melons
59p each

How much money does he have left?

23. Here are two spinners.


Both pointers are spun and the two scores are added together.
Write all the different totals.
$\qquad$
$\qquad$
$\qquad$
24. The table shows the number of visitors to a library during a week.

|  | morning | afternoon |
| :--- | :---: | :---: |
| Monday | 72 | 95 |
| Tuesday | 55 | 81 |
| Wednesday | closed | closed |
| Thursday | 93 | 85 |
| Friday | 107 | 126 |
| Saturday | 223 | 295 |

How many days had a total of more than 150 visitors?

25. Here is a jug with some water in it.


How many more millilitres of water must be added so that there are $\mathbf{5 0 0} \mathbf{~ m l}$ in the jug?

26. Circle one number in each box to make a total of 500

| 50 |
| :---: |
| 150 |
| 250 |
| 350 |


| 100 |
| :--- |
| 200 |
| 400 |


| 150 |
| :--- |
| 250 |
| 350 |
| 450 |

27. Mark has a box of $\mathbf{1 3 0}$ 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 $\mathbf{2 8}$ bricks and the other uses $\mathbf{3 6}$ bricks.
How many of his 87 bricks has he got left now?

28. Write the missing numbers.

$$
67+\square=125
$$

$$
5 \times \square=225
$$

29. These are the prices of pineapples and oranges.


Joe buys one pineapple and half a kilogram of oranges.
How much does he spend altogether?

30. Write in the missing numbers.

31. Here are four number cards.


Jade picks the two cards which have a difference of 22
Which cards does she pick?

32. This jug has 1 litre of water in it.

Lauren pours out 400 millilitres of water.
Draw an arrow $(\longrightarrow)$ to show the new level of the water in the jug.

33.

There are $\mathbf{1 0 0 g}$ of chocolate chips in the bag.
Sita uses $\mathbf{2 5 g}$.
Ben uses $\mathbf{3 5 g}$.
How many grams of chocolate chips are left in the bag?


2 marks
34.

Ben has 90p.
He buys 2 tickets.
Each ticket costs 35p.


How much money does Ben have left?

35. Ben has 7 bags of grapes.

Each bag has $\mathbf{1 0}$ grapes.


Ben gives $\mathbf{2 5}$ grapes to his friends.
How many grapes does he have left?

36. There are 55 cakes.

20 boys and 19 girls each take a cake.
How many cakes are left?


37. Each side of the number balance has the same answer.

Write in the missing number.

38. In the high jump, Vijay jumped 96 cm on his first try.

He jumped 1 m 15 cm on his second try.


How much higher did he jump on his second try?
39. Here are four digit cards.

$$
3 \quad 4 \quad 5
$$

Use three of them to make this correct.

$$
\square-\square=47
$$

40. Here are three jumpers in a shop.

A

B
$£ 12.50$
£15.65

C
£19.50

How much does jumper B cost to the nearest pound?


1 mark
Jules buys jumper A and jumper C.
How much change does she get from $£ 40$ ?


2 marks

(a) Jack buys four apples.

He pays with a $£ 2$ coin.
He gets $£ 1.20$ change.
How much does one apple cost?

(b) Oranges cost $15 p$ each.

Raj has a £1 coin.


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


1 mark
42. A café sells coffee and toast.


How much does 1 cup of coffee cost?


2 marks
43. Tim, his mother and his grandmother all have their birthday on the same day.


Tim
12 years old


Tim's mother
37 years old


Tim's grandmother 70 years old
(a) When Tim was born, how old was Tim's grandmother ?


1 mark
(b) When Tim's mother is $\mathbf{6 0}$ years old, how old will Tim be?


1 mark
44. Completing calculations

Write numbers in the boxes to make the calculations correct.



1 mark
45. Using rules
(a) The rule in a number sequence is add 8

Use this rule to write the missing numbers in the sequence.

(b) The rule in a different number sequence is double, then add 1 Use this rule to write the missing numbers in the sequence.


2 marks
46. Keys

The diagrams in this question are not drawn accurately.
(a) The diagram shows Jo's key.


Use the scale to find the length of Jo's key.

(b) This time you cannot see all of Jo's key.


One end is at 2.8 cm on the scale.
Where is the other end on the scale?


1 mark
47.

## Number line again

Here is a number line.


The number line can help you work out the missing numbers below.
The first one is done for you.

48. Number line
(a) The diagram shows part of a number line.

What number is the arrow pointing to?

(b) Now draw an arrow on the number line above to show the number that is $\mathbf{1 . 2}$ less than 7
(c) Work out the answer to $6.7-0.8$
49.


There are 1000 pieces in a puzzle.
12 pieces go missing.
How many pieces are left?


1 mark
50. Each toy costs 25p.

Jack buys 6 toys.


How much change does he get from £2.00?
Show how you work it out in the box.

51. Work out the difference between 147 and 205


Write the answer in the box.

She spent £2.35


How much money did she have left?
53. Ellen has a $£ 5$ note.

She spends $£ 1.99$
Draw a ring around each coin she gets in her change.


1 mark
54. Dan says,

## 'I choose a number.

I multiply it by 5
Then I subtract 7
My answer is 38'


What number did Dan choose?

55. This statement is not true.
'A multiple of 10 added to a multiple of 10 always makes a multiple of 20'
Give an example to show why this statement is not true.
$\qquad$
56. This is a fridge-freezer.


The temperature in the fridge is $4^{\circ} \mathrm{C}$.
The temperature in the freezer is $-18^{\circ} \mathrm{C}$.
What is the difference in temperature between the fridge and the freezer?

57. Luke buys $\mathbf{7 5 0}$ 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
58. Write in the missing digits.

59.

Number sequence
The rule for this sequence is to add the same number each time.
Use this rule to write the missing numbers in the sequence.
3

60. Shampoo

The diagram shows what Molly buys.

?

$£ 1.99$

$79 p$

She pays with a £5 note and gets $\mathbf{6 6 p}$ change.
How much did Molly pay for the shampoo?

61. Cost of pens

Lisa buys three pens.


She gives the shopkeeper $£ 5$ and gets $£ 1.10$ change.
What is the cost of one pen?


2 marks
62. Sales

A shop sells T-shirts and vests.


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

(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?


## 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?

## £

(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?

(a) Pat saves 50 p coins.

She has saved $£ 7.50$
How many 50 p coins make $£ 7.50$ ?

(b) Callum saves 20p coins.

He needs £5
So far, he has saved $£ 2.80$
How many more 20p coins does he need to make $£ 5$ ?


1 mark
65. Theatre

Rachel likes going to the theatre.
Each time she goes she pays for one ticket and one programme.


In one year Rachel goes to the theatre 5 times.
Altogether, how much does she pay?

66. Consecutive

A number line shows all the whole numbers from 1 to 100
Numbers that are next to each other on this line are called consecutive numbers.
Sanjay says:
'I can choose any two consecutive numbers.
When I add them the answer will always be an even number'.
Is Sanjay correct? Tick ( $\sqrt{ }$ )Yes or No.


Explain how you know.


## Pantomime

Here is the cost of tickets to see a pantomime.

$$
\begin{array}{ll}
\text { Adults } & £ 3.50 \\
\text { Children } & £ 2.50
\end{array}
$$

(a) How many tickets for adults can you buy with $£ 35$ ?
$\square$
(b) How many tickets for children can you buy with £20?
$\qquad$
(c) On Monday tickets are half price.

On Monday, how much does it cost altogether for one adult and one child?

## £

1 mark
68. Short side

The perimeter of a rectangle is one metre.
Each longer side is 36 centimetres.
What is the length of each shorter side?

69. Two-digit number

How many two-digit numbers have digits that add to twelve?


2 marks
70. 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?


## Coins

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


I put four coins in a row.


What is the length of the row?


1 mark
(b) Then I put four 25 cent coins in a row.

The length of the row is 7.4 cm .


What is the diameter of one 25 cent coin?

(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?
$\qquad$
72. There are 64 picture cards in this pile.


Five children each take the same number of cards.
24 cards are left over.
How many cards does each child take?

73. Calculations

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

74. High jump

Dave and Steve are in a high jump competition.


Dave jumps $1 \frac{1}{4}$ metres.
Steve jumps 1.4 metres.
Who jumps higher? Tick $(\sqrt{ })$ Dave or Steve.
$\square$ Dave $\square$ Steve

How much higher does he jump?
Give your answer in metres.

75. Temperature

The temperature on $16^{\text {th }}$ December was $1^{\circ} \mathrm{C}$

On the $15^{\text {th }}$ December it was $5^{\circ} \mathrm{C}$ colder than on $16^{\text {th }}$ December.

What was the temperature on $15^{\text {th }}$ December?


1 mark

## Mark schemes

1. Award two marks for the correct answer of $25 p$

Accept $£ 0.25 p$ OR $£ 0-25 p$ OR $£ 0: 25 p$ OR $£ 025 p$
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
$90-35-30=$ wrong answer
OR
$35+30=65$
$90-65=$ wrong answer
Accept for ONE mark $0.25 p$ OR $£ 25 p$ as evidence of appropriate working.
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 2 m
[2]
2. Arrow drawn to 37 as shown:


Arrow should be closer to 37 than 36 or 38 for award of the mark.
Arrow need not touch the line, provided the intention is clear.
3. 11 boys and 10 girls

Answers must be in the correct order.
4. Award TWO marks for the correct answer of 7

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

$$
\begin{aligned}
& 23+21+5=49 \\
& 56-49=\text { wrong answer }
\end{aligned}
$$

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.
5.

Boxes completed as shown:
6067078089091010

The numbers must be in the correct order for the award of the mark.
6.

Award TWO marks for the correct answer of 25
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:
$23+30=53$
78-53 = 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 2 m
[2]

## Example responses

## 1 mark

Rachel has identifi ed that she needs to add together the number of children in Class 1 and Class 2, and then subtract her answer from the total number of children in the school. Although she made an arithmetic error in the fi rst of these calculations, she has recorded a complete and correct method so can be awarded one mark. Charlie has also added together the number of children in Class 1 and Class 2. However, he has not recorded any further working. While it is possible that his answer of 35 was found by attempting to work out $78-53$, this cannot be assumed. Therefore his method is incomplete and cannot be awarded one mark.


Tanya has not recorded the addition of 23 and 30 , but we can assume that she has done this since she recorded the correct answer 53 in her subsequent subtraction. She made an arithmetic error when subtracting 53 from 78, and reached an incorrect fi nal answer. However, she can be awarded one mark since we can assume from her working that she used a complete and viable method. Rohan has recorded a correct method. However, an answer is required for the award of the working mark in the non-calculator paper. Therefore, without an answer, Rohan cannot be awarded one mark.


Benjamin has recorded a complete and correct method, without any errors. However, he has copied the wrong number from his fi nal calculation into the answer box, resulting in an incorrect fi nal answer. While he cannot be awarded both marks for a correct answer, he can be awarded one mark for a complete and correct method. Sameena has used a number line to count up to 78. However, she failed to total the two classes fi rst, and instead counted up from 30, the number of children in Class 2. Therefore her working is not correct and she cannot be awarded one mark.

7.

Award TWO marks for the three sums completed correctly using six different numbers, e.g.


All three sums must be correct for the award of TWO marks.
Accept $0+32$ as a correct answer.
or
Award ONE mark for any two sums completed correctly, such that all three calculations are correct but numbers are repeated in two of the calculations or there is an error in one of the calculations, e.g.


Any two sums can be correct for the award of ONE mark.
8. All three numbers correct, as shown:


If the answer boxes are empty, accept the correct values written in the correct order elsewhere on the page.
9. (a) 590 in the first box
(b) 710 in the last box

1

1
[2]

1

1
(c) Award ONE mark for showing a calculation that uses all three numbers to give an answer of 10, eg

- $25-(7+8)$
- 25-7-8
- 25
-7
$\frac{-8}{10}$
- $25-7=18$

18-8

## Accept calculation that is completed using more than one step, eg

- 7 and 8 add to 15 , then 25 - 15
- 7 and 8 , then take it away from 25

Accept poor layout of calculation provided the pupil's intention is clear, eg

- $25-8=17-7=10$
- 25

7
$\frac{-8}{10}$
Do not accept an embedded answer, eg

- $7+8=15$
$15+10=25$
Do not accept incomplete or incorrect calculation, eg
- 18-8
- 17-7
- 25-15
- 25

7
$\frac{-8}{10}$

- $25-7+8$
- $7+8=15$
- $\quad 15-25=10$
- 7 and 8 , then take away 25
- $25-7-8=18$ (error)

Gives 30 in the top row

Gives 19 in the bottom row
12. (a) 4
(b) 9

Do not accept: incomplete processing
eg, for part (a)

- 47-43
eg, for part (b)
- $1 \times 9$
- One more 9

13. Award ONE mark for indicating the correct four coins, ie


Accept unambiguous indication of the correct coins

Gives a correct explanation
! Explanation contains an incorrect statement Ignore alongside a correct response

The most common correct explanations:
Show or imply the correct answer to the sum, eg

- $538+46=584$
- It should be 585-1

Accept minimally acceptable explanation, eg

- 584
- It's wrong by 1

Do not accept incomplete explanation, eg

- $538+46$ is not 585

Show or imply that Nisha has calculated either $538+47$ or $539+46$, eg

- $\quad 538+47=585$
- $585-538=47$
- $539+46=585$
- $585-46=539$


## Accept minimally acceptable explanation, eg

- She added 47
- $\quad$ She used 539

Refer to the two numbers added being even, where the answer is odd, eg

- If you add two even numbers the answer is even, but 585 is odd

Accept minimally acceptable explanation, eg

- Even + even = even
- The first two numbers are even, but the answer is odd
- The answer should be even
- An odd result is impossible


## Do not accept incomplete explanation, eg

## - Even + even

- It's an odd answer

Show or imply why the last digit in one of the values is incorrect, eg

- $8+6=14$ so it should end in 4
- $38+46=84$
- $85-46=39$
- $85-8$ ends in 7 , not 6


## Accept minimally acceptable explanation, eg

- $8+6=14$ but it ends in a 5
- It should end in 4
- It ends in 84


## Do not accept incomplete or incorrect explanation, eg

- $8+6=14$
- $8+6$ does not equal 15
- It shouldn't end in a 5
- It should end in 6, not 5

16. (a) Gives the first value as 765

Gives the last value as 925
(b) Gives the second to last value as 0

Gives the last value as -15
! Follow through as their 0-15
Accept provided this results in a negative number
Do not accept incomplete processing
eg, for the second mark in part (b)

- 0-15
(a) 11
! For part (a), other odd numbers listed
Ignore, provided there is no ambiguity as to which is their answer
(b) 36

Accept follow through as 25 + their (a)
18. (a) Indicates Yes and gives a correct explanation

The most common correct explanations:
Complete the calculations, eg

- $17+15=32$ and $2 \times 16=32$
- They are both 32
- $10+10=20,7+5=12$ and $2 \times 10=20,2 \times 6=12$


## Accept minimally acceptable explanation, eg

- 32 seen, with no evidence of incorrect working
- $20+12$ and $20+12$

Do not accept incomplete explanation, eg

- $17+15=2 \times 16$
- Same answer
- I did the calculations

Use knowledge of near doubles, eg

- Subtract 1 from 17 and add it to the 15 and you have $16+16$ which is the same as $16 \times 2$
- Double $15=30$ then add 2 and it's the same as double 16

Accept minimally acceptable explanation, eg

- $16+1+16-1=2 \times 16$
- $17+15=16+16$


## Do not accept incomplete explanation, eg

- $17+15=2 \times 16$
(b) 17
(c) 3
! Answer of $3 \times 1$
Condone

19. Calculation completed as shown:


Both numbers must be correct for the award of the mark.
20. 33
21. Award two marks for the correct answer of $£ 1.90$

Accept £1.90p OR £1.90 pence OR £1-90p OR £1:90 OR £1 90
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
$340-150=$ wrong answer
OR
$£ 2+£ 1+20+20=£ 3.40$
£3.40-£1.50 = wrong answer
Accept for ONE mark £190p OR £190 OR £19.0 OR £19.0p as evidence of appropriate working.
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 $2 m$
22. Award TWO marks for the correct answer of $6 p$

Accept $£ 0.06$ p OR $£ 0.06$ pence OR $£ 0-06$ OR $£ 0: 06$ OR $£ 006$
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
$50+20+20+20=110$
$45+59=104$
110-104 = wrong answer
Accept for ONE mark 0.6p OR 0.06p OR £6p as evidence of appropriate working. 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 2 m
23. Award TWO marks for all six totals as shown:
$41,45,50,51,55,60$
All six totals must be correct for the award of both marks.
Totals may be given in any order.
If both marks are awarded, record by entering 1 in each marking space.
If the answer is incorrect, award ONE mark for:

- At least five totals correct and no more than one incorrect


## OR

- All six correct (and no additional incorrect) pairs of scores given but not totalled, ie
$1+40,5+40,10+40$
$1+50,5+50,10+50$
Award ONE mark by entering 1, 0 in the marking spaces.

24. 4

Accept a correct list of days, ie Monday, Thursday, Friday, Saturday.
25. 350
26. One of the following triples:

50, 200, 250
50, 100, 350
150, 100, 250
150, 200, 150
250, 100, 150
Accept: alternative unambiguous indications, eg numbers ticked, crossed or underlined
27. (a) 43
(b) Award TWO marks for the correct answer of 23

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

- $87-28-36=$ wrong answer

OR

- $36+28=64$
$87-64=$ wrong answer
Working must be carried through to reach an answer for the award of ONE mark.

Up to 2 m
28. (a) 58
29. (a) Award TWO marks for the correct answer of $£ 1.51$

If the answer is incorrect, award ONE mark for evidence of appropriate method, eg
(b) $86+\left(\frac{1}{2} \times 1.30\right)$

Accept for ONE mark £151p OR £151 as evidence of an appropriate method.
Answer need not be obtained for the award of ONE mark.
Up to 2
42

## 37

 32 27 22Both numbers must be correct for the award of the mark

45 AND 67
Accept numbers in either order.
32. Arrow drawn to 600 ml as shown:


The arrow need not touch the line, provided the intention is clear.
Accept any other clear way of indicating the correct point, such as a cross.
33. Award TWO marks for the correct answer of $40(\mathrm{~g})$.

If the answer is incorrect or missing, award ONE mark for evidence of a complete, correct method, e.g.

- 100-25-35 = (incorrect or no answer)
- $25+35=70$ (error)

$$
100-70=
$$

## OR

Any of these partial methods correctly evaluated, i.e.

- $100-25=75$
- $100-35=65$
- $25+35=60$


## OR

- Sight of 75 , 65 or 60
(Use the example responses to help you determine how many marks can be awarded.)


## Example responses



Sasha and Hassan have recorded the same incorrect answer in the answer box. In her working, Sasha has shown a complete, correct method with an arithmetic error. Although her final answer is incorrect, she is awarded one mark for the complete, correct method.
Hassan, in comparison, has only provided a partial method. He has correctly added Sita's and Ben's chocolate chips, but has not subtracted that total from 100. Although his method is not complete, he is awarded one mark for a partial method correctly evaluated.


Alex and Joanna have both used a number line as part of their method. In his method, Alex first subtracts 25 g from 100 g to get 75 g . He then attempts to subtract 35 g from 75 g and makes an arithmetic error. Although he has given an incorrect final answer, he can be awarded one mark for a complete, correct method.
In contrast, Joanna's method cannot be considered complete or correct as there is no indication that she is subtracting either Ben's or Sita's chocolate chips, so no marks are awarded.


Katie and Luke have both recorded an incorrect answer of 50 in the answer box. In her working, Katie has shown a partial step of correctly evaluating the sum of 25 and 35 and is awarded one mark for sight of 60 .
Luke's working, in contrast, shows no evidence of a correctly evaluated partial step or a complete correct method and therefore is awarded no marks.


Both Priya and Jude have used a pictorial method to obtain an answer.
Priya has correctly drawn 100 chocolate chips, and crossed out 25 chocolate chips from one end and 35 from the other. However, she miscounts her remaining chocolate chips, giving her an incorrect answer of 42. She is awarded one mark for a complete, correct method.
Although Jude has correctly recorded 10 marks representing 100 chocolate chips, he has only subtracted 50 chocolate chips and not 60 . His method is therefore not correct and he is awarded no marks.

Award TWO marks for the correct answer of 20 (p).
If the answer is incorrect or missing, award ONE mark for evidence of a complete, correct method, e.g.

- 90-35-35 = (incorrect or no answer)


## OR

- $90-2 \times 35=$

OR

- $90-35=54$ (error)
$54-35=$
- $90-70=$ (incorrect or no answer)
- $35 \times 2=60$ (error) $90-60=$

OR
Any of these partial methods correctly evaluated, i.e.

- $35+35=70$
- $35 \times 2=70$
- $90-35=55$


## OR

- Sight of 70 or 55
(Use the example responses to help you determine how many marks can be awarded.)


In their methods, both Nathan and Staci have provided methods with their final answers. Nathan initially wrote $70(\mathrm{p})$ as his final answer but he crossed that response out and replaced it with the correct answer of 20(p). Therefore, he is awarded two marks for the correct answer. Staci, in her method, multiplied 35 by 2 to obtain 70 and shows the intention to subtract that answer from 90.
Although her final answer is incorrect, Staci is awarded one mark for showing a complete, correct method.


Lauren and Jason have both provided an incorrect answer but have used pictorial methods. Lauren has drawn 90 circles to represent 90 p and even though she crossed off 70 circles, she then miscounted resulting in an error in her final answer. She is awarded one mark for a complete correct method.
In contrast, Jason has not drawn 90 circles and although he has crossed off 35 of these, he cannot be awarded a mark for a correctly evaluated partial method as he has not written down 55 (or 70) either in his working or as his final answer. Therefore, he is awarded no marks.


Parker and Gwen have both provided the same incorrect final answer and have included their methods.
Although Parker has only evaluated the first step, he has shown a complete and correct method, therefore he is awarded one mark.
Gwen has only shown her method for the first step, which she has correctly evaluated using partitioning.
Although her method is not complete, she is awarded one mark for a correctly evaluated partial method.


Sandeep and Bethany have both given incorrect final answers with a partial method.
Sandeep has not recorded all aspects of his method and has arrived at the incorrect answer of $15(\mathrm{p})$. There is no written evidence of a complete, correct method. However, he is awarded one mark for sight of 55 in his working as this implies that he has correctly evaluated a partial method (90-35).
Bethany has shown a correct partial method of 35 subtracted from 90 . However, as she has not correctly evaluated this step, she is awarded no marks.

If the answer is incorrect or missing, award ONE mark for evidence of a complete, correct method, e.g.

- $7 \times 10-25=$ (incorrect or no answer)
- $7 \times 10=60$ (error)
$60-25=$
Use the example responses to determine how many marks can be awarded.


## Example responses



In their methods, Hanaa and Kyle both calculated $7 \times 10$ mentally and then attempted a partitioning method to subtract 25 from 70 . Hanaa subtracted 20 correctly and then subtracted 5 from her answer. She recorded the correct answer in the answer box and is awarded two marks. Kyle also partitioned 25 into 20 and 5, and calculated the difference in the tens. However, he did not subtract the 5 and, as a result, he provided an incorrect answer. Although his final answer is incorrect, Kyle is awarded one mark for his complete, correct method.


Aidan: 0 marks


Both Caleb and Aidan have crossed out their work. Caleb recorded a complete, correct method with the correct answer 45 in his working. He then crossed out the 45 and recorded 55 as his final answer. We cannot consider working or answers that have been crossed out. Consequently, Caleb is awarded one mark for a complete, correct method only. In comparison, Aidan has only recorded and correctly evaluated one step of the problem. He has not completed the method and has provided the final answer of 70 . His final answer is incorrect and he is awarded no marks.


Izabella and Siobhan have both provided an incorrect answer, but have used pictorial methods. Izabella has drawn 7 bags of 10 grapes and has clearly crossed off 25 of these grapes. In her final answer, she has made a counting error, so she is awarded one mark for a complete, correct method. In contrast, Siobhan has drawn 69 grapes instead of 70 and although she has correctly crossed off 25 of these, her method is not correct because she did not start with 70 . Therefore, she is awarded no marks.



Owen and Grace have both provided an incorrect final answer, but have included their methods. In Owen's method, he has made two arithmetic errors, but his method is complete and correct; therefore he is awarded one mark. Grace has used a number line to calculate, $7 \times 10$. However, because she started to count from ten, she has erroneously reached the answer of 80 . She then successfully subtracts 25 from her answer of 80 . As a result of her first step being incorrect, she cannot be awarded any marks for her method.
36.

Award TWO marks for the correct answer of 16 (cakes)

Or
If the answer is incorrect or missing, award ONE mark for evidence of a complete, correct method, e.g.

- $55-20-19=$ (incorrect or no answer)
- $20+19=38$ (error)
$55-38=$


Rabina: 1 mark


Both Joel and Rabina have given 61 as their final answer. Joel has provided a correct written method for subtracting 39. He shows the correct answer 16 at the end of his working, but he has made a transcription error in the answer box. Since it can be clearly seen that 16 was his intended answer, he is awarded two marks. In contrast, although Rabina has a complete, correct method we do not know that 16 was her intended answer. Consequently she can only be awarded one mark for a correct method.

## Suzanne: 1 mark



Elijah: 0 marks


Suzanne and Elijah have used written methods to solve the problem. Although Suzanne has made two arithmetic errors, her method is complete; she subtracted 20 from 55 , and subtracted 19 from the result. Therefore she is awarded one mark for a complete, correct method. In contrast, Elijah has subtracted both 20 and 19, but he subtracted each of the numbers in turn from 55. Although he has evaluated each of his subtractions correctly, he has not shown a correct method. No marks can be awarded.


Stacey: 0 marks


Max and Stacey have both completed their first calculation correctly: $20+19=39$. They have both attempted a 'counting on' method for their second calculation. Max has shown that he intended to count on to 55 . However, he has made an arithmetic error by only counting on 6 instead of 16. Therefore he is awarded one mark for a complete, correct method. In contrast, whilst completing her second step, Stacey did not specify the number she intended to count on to, so her method is incomplete. As a result she is awarded no marks.

## Elena: 1 mark



Aidan: 0 marks


Elena and Aidan used a pictorial method to solve the problem. Elena has correctly drawn 55 circles to represent the total number of cakes, and has proceeded to cross off 20 and 19. When obtaining her final answer she made a counting error. She can be awarded one mark for her correct method. Aidan, unlike Elena, has only drawn 50 circles, not 55 . He then proceeded to cross off 20 and 19 accurately. However, he cannot be awarded the method mark because he did not use the number 55 as his starting point, so his method is incorrect and no marks are awarded.


Marius has explained his method fully in words; he has subtracted 20 from 55 providing the correct answer of 35 . He then explains that he subtracted 19 from 35, but at this stage he has made an arithmetic error providing the incorrect answer of 17. Even though his final answer is incorrect, he has shown a complete, correct method and therefore is awarded one mark. Aisha has also explained her method in words but has not explained which numbers she took from 55 to get to her answer of 15 . Therefore no marks are awarded.
37.

Box completed as shown:

39. Boxes completed as shown:


All three digits must be correct for the award of the mark.
40. (a) £16
(b) Award TWO marks for the correct answer of £8

If the answer is incorrect, award ONE mark for evidence of appropriate working, e.g.
$12.50+19.50=32$
40-32 = wrong answer
Accept: for ONE mark £800 OR £800p as evidence of appropriate working.
Working must be carried through to reach an answer for the award of
ONE mark.
41. (a) $20 p$
(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 6 p left over

U1

1
[2]
42. Award TWO marks for the correct answer of 90 p

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

- $£ 1.70-£ 1.30=40 \mathrm{p}$
£1.30-40p = (wrong answer)
- $£ 1.70-£ 1.30=40 p$
£1.70-(2 $\times 40 \mathrm{p})=($ wrong answer $)$
Answer need not be obtained for the award of ONE mark.
Up to 2
[2]

43. (a) 58
(b) 35

1

U1
[2]
44. Gives any three numbers that combine as shown to give 60 , eg

- $100+20-60$
- $60+1-1$
- $60+60-60$

Gives any three numbers that combine as shown to give 0.6 , eg

- $0.5+0.5-0.4$
- $2+1-2.4$
- $0.6+1-1$

Accept fractions, decimals or negatives
Accept zero(s) used
45. (a) Gives both correct numbers in the correct positions, ie 3 and 35
(b) Gives both correct numbers in the correct positions, ie 5 and 95
or
Gives one correct number in the correct position
46. (a) 5.3

Accept equivalent fractions or decimals
(b) 8.1
! Follow through
Accept follow through as their (a) + 2.8, provided this requires
'bridging the units' eg, from their (a) as 6.4 accept

- 9.2

47. -2

12
48. (a) 5.2 or equivalent
! Units shown
Ignore
(b) Indicates 5.8 on the number line

## ! Indication not accurate

Accept if nearer to 5.8 than to 5.7 or 5.9
$!$ Arrow labelled
Ignore, even if incorrect
! Own number line drawn
Accept provided each 0.1 is marked and is equally spaced, and both 5 and 6 , or both 6 and 7, are labelled
(c) 5.9 or equivalent

Do not accept correct answer shown in working but their final answer given as 59

Do not accept their answer shown as negative, eg - 5.9

## OR

If one mark is awarded, enter $\mathbf{1}$ then $\mathbf{0}$ in the mark boxes.
For one mark, accept a correct value with incorrect use of units as evidence of a complete method, eg $£ 50,0.50$ p or $£ 50$ p.

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).

## 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.


Maisie has attempted to find six lots of 25 p, 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.


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 25 p 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.


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 25 p instead of six lots of 25 p. 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.


Daria has recorded a pictorial method to show six lots of two 10p coins and a 5 p 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.


Liam has described a method that involves adding six lots of 25 p 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 25 p into 20 and 5 . She has described counting back six lots of 20 p and recorded 80 p 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.

51. 58

Children are not required to use the number line for the award of the mark.
52. £7.65

Accept $£ 7.65$ p, $£ 7-65, £ 7: 65, £ 765$ (with a clear space between the 7 and 6). Do not accept $£ 765$ p or $£ 765$
53. Rings around:
one 1 p coin
and
three £1 coins
Accept any other clear way of indicating the correct coins.
Do not award the mark if extra coins are ringed unless it is clear that the four correct coins are the child's final choice.
54. 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\div5 = 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.
55. An example that shows two multiples of 10 totalling a number that is not a multiple of 20 , eg:
$10+20=30$
OR
$60+30=90$
Accept a correct example without a total, eg $10+20$
Do not accept a total without exemplification of how this total was reached, eg 30
56. 22

Accept -22
57. One number circled as shown:

4 (5) $6 \quad 7 \quad 8$
Accept any other clear way of indicating the correct number, such as ticking or underlining.
58. Digits written in boxes as shown:
$482+286=768$
59. Award ONE mark for all three correct numbers in the correct order, ie

7
11 15

If the answer is incorrect, award ONE mark for:
Shows the digits 156
or
Shows the values 2.78 or 278 and 4.34 or 434
or
Shows the value 3.44 or 344
or
Shows a complete correct method with not more than one computational error, eg

- $\quad(5-0.66)-(1.99+0.79)$
- $£ 1.99+79 p+66 p=£ 3.45$ (error)

$$
£ 5-£ 3.45=£ 1.55
$$

! Inconsistent units
Within an otherwise correct method, condone
eg, for $1 m$ accept

- $\quad(5-66)-(1.99+79)$

Up to 2
(U1)

## 61.

Do not accept incorrect working, eg

- $5-1.10=4.90$
$4.90 \div 3=1.30$
or Shows the value 1.3 or 130, with no evidence of incorrect working
or
Shows the digits 39(0)
or
Shows a complete correct method with not more than one computational error, provided their value is rounded or truncated to the nearest penny, eg
- $5-1.10=4.90$
$4.90 \div 3=1.63$
Do not accept conceptual error, eg
- $5-1.10=4.10$
$4.10 \div 3=1.37$
(a) 8
(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
- $10 r 1$

63. (a) £ 179.40
(b) 5

- 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
- $20-5+3.98$
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
- $\quad 12.90+12.90+6.45+6.45+6.45+6.45+6.45=58.05$
- $12.90 \times 2=25.80,58.05-25.80=23.75$ (error)
$23.75 \div 6.45=3.68$ so 3

64. (a) 15
(b) 11
! Units of 50p or 20p given
Accept only if unambiguous, eg for part (a)

- 15 50p coins
- $1550 p$

However, if in parts (a) and (b) the only error is that the inclusion of 50 or 20 creates ambiguity, mark as 0;1, eg

- 1550,1120
- 1550,1120
! Other units given, eg for part (a)
- $15 p$

Penalise only the first occurrence
65. 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

- $\quad$ Showing the digits 10475

Upto 2
66. Indicates No and gives a correct explanation

The most common correct explanations:
Give a counter example, eg

- $2+3=5$ which is odd
- 5, 6 gives 11
- $3+4$ is not even

Show why the result must be odd, eg

- You will always add an odd to an even and that gives you an odd number
- Even + odd = odd
- 

There will always be one left over so it will be odd
Accept minimally acceptable explanation, eg

- You will always add an odd to an even
- Even + odd
- The result is always odd


## Do not accept incomplete explanation that does not infer addition, eg

- It goes odd, even, odd, even ...

Do not accept incorrect statement accompanying a correct statement, eg

- You will always add an odd to an even and sometimes that gives you an odd number and sometimes it is even
(a) 10
(b) 8
(c) $£ 3$
or Gives the value 0.14 or equivalent
or
Shows the digits 28
or
Shows a complete correct method with not more than one computational error, eg
- $100 \div 2=50$

50-36

- $36+36=74$ (error)
$100-74=26$
$26 \div 2=13$

69. Shows or implies that there are exactly seven two-digit numbers with digits
that add to 12, eg

- Answer of 7
- 39, 48, 57, 66, 75, 84, 93 [any order]
or Shows at least four of the seven correct two-digit numbers with not more than
two incorrect, even if some correct numbers are repeated
Do not accept for $2 m$, numbers repeated

70. £190
or Shows the digits 108
or
Shows the correct method of $18 \times 6+82$
Accept repeated addition for $18 \times 6$
Shows the digits 190 with the decimal point misplaced, eg

- 1.90
- 1900

71. (a) 9.4
! Rounded values
Accept only if a more accurate value or correct method seen
(b) 1.85

Accept equivalent values, eg, for part (a)

- 9.40
(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)
72. 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
$64-24=40$
$40 \div 5=$ 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.
73. Gives a pair of numbers with a product of 24

Accept fractions, decimals or negatives

Gives a pair of numbers with a product of 10
74. Indicates Steve and gives the value 0.15 or equivalent
or Shows the value 0.15 or equivalent
or
Indicates Steve and shows the digits 15
or
Indicates Steve and shows either the value 1.25 or equivalent decimal or the value 125
or
Indicates Steve and converts both heights to mixed numbers or fractions, where the fractions have a common denominator, eg

- $1 \frac{10}{40}, 1 \frac{16}{40}$

75.     - 4 Do not accept temperature written as 4 -
