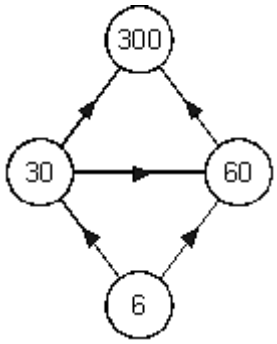
M1. 67 33 (25) 57 13 (60)

*Both numbers must be correct. Accept numbers written elsewhere on page **OR** other ways of indicating numbers provided intention is clear.*

[1]

M2.



***2 marks** for all three correct answers.*

***1 mark** for any two correct answers.*

[2]

M3. 12 15 18

Multiples may be given in any order.

[1]

M4. 206 (metres)

[1]

M5. 35 (ice-creams)

[1]

M6. (a) 180

1

(b) working out shown that is consistent with correct answer for 48a.

For example:

a) *5 × 30 = 150*
5 × 6 = 30
150 + 30 = 180

1

[2]

M7. (a) 20 × 4 = 80

1

(b) 48 ÷ 2 = 24

1

[2]

M8. 3

[1]

M9. 370

[1]

M10. (a) 7

1

(b) 24

1

[2]

M11. (a) 32

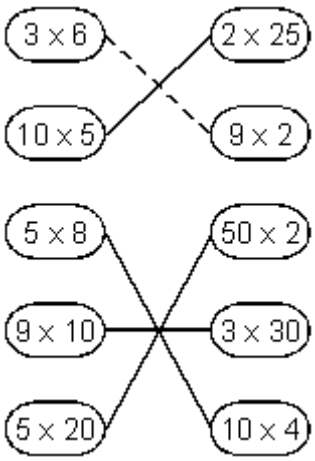
1

(b) 5

1

[2]

M12. Award TWO marks for the diagram completed correctly as shown.



If the answer is incorrect, award **ONE** mark for at least two lines correctly drawn.

Lines need not touch the boxes, provided the intention is clear.

***Do not** accept two or more lines emanating from the same left-hand box.*

Up to 2

[2]

M13. (a) 140

1

(b) 12

1

[2]

M14. 50

[1]

M15. (a) $5 \times 70 =$ **350**

1

(b) $4 \times$ **50** $= 200$

1

[2]

M16. Any two numbers which multiplied together give 150, eg

10 × 15
30 × 5
25 × 6
150 × 1
7.5 × 20

[1]

M17. Award **TWO** marks for the correct answer of £2.45

*Accept £2.45p **OR** £2 45*

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

35 × 7 = wrong answer

OR

30 × 7 = 210
5 × 7 = 35
210 + 35 = wrong answer

OR

award **ONE** mark for £245 **OR** £245p **OR** £24.5 as evidence of appropriate working.

*An answer must be given for the award of **ONE** mark.*

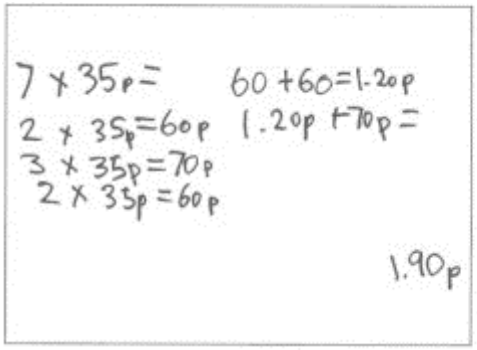
Up to 2

[2]

Examples of responses

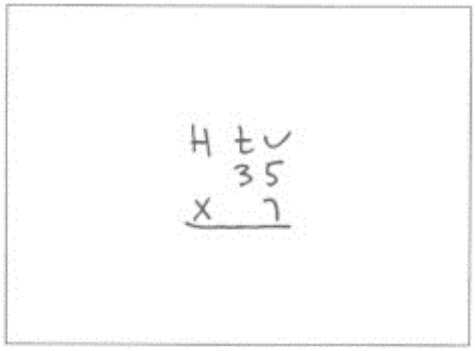
Bashir's working out shows his intention to calculate 35p multiplied by 7. To simplify the calculation he has broken it down into three separate multiplications then added the three answers together. Although he made an error in calculating two lots then three lots of 35p, his method is complete and correct since he gave an answer. Bashir can be awarded the mark. Adam has also used multiplication but has applied a vertical algorithm. However, he has made an error in place value by omitting the zero from 7 × 30 and calculating this as 21. His method is, therefore, not correct. Adam cannot be awarded the mark.

Bashir



1 mark

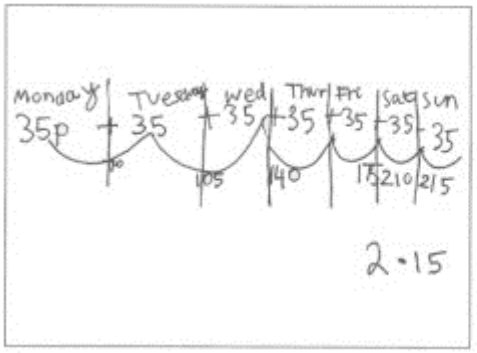
Adam



0 marks

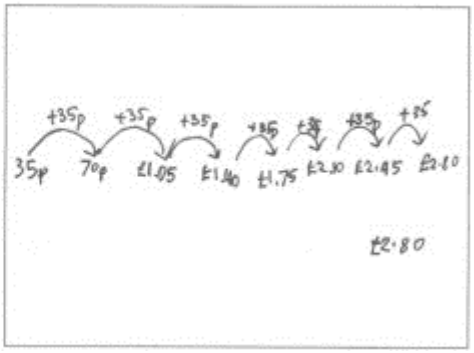
Jay has shown in her repeated addition method that she recognised the need to calculate seven lots of 35p. She made an error in the final addition by adding 35p to 210p incorrectly but has correctly converted her answer of 215p to £2.15. Her method is complete and correct. Jay can be awarded the mark. Bob's working shows that he understood that he needed to count on 35p seven times but he made an error starting at 35p instead of at 0p and ended up calculating (allowing for a later error) eight lots of 35p. His method is not correct. Bob cannot be awarded the mark.

Jay



1 mark

Bob

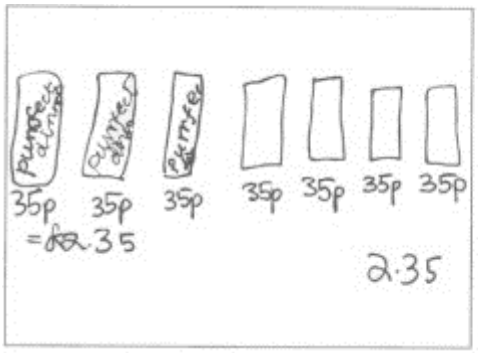


0 marks

Carol has drawn seven tins of cat food and written 35p below each one. We can assume from her answer of £2.35 that she added 35p seven times. Although she made an error in this calculation, her method is complete and correct. Carol can be awarded the mark. It is

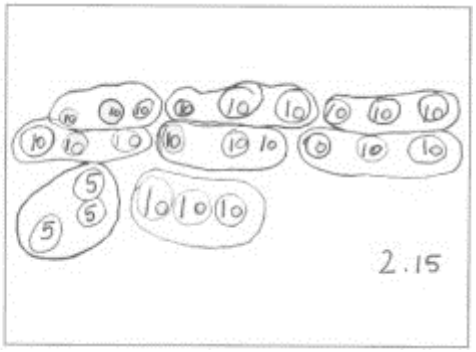
likely that Tony also recognised the need to add seven lots of 35p since his working shows his attempt to partition the 35p amounts into groups of 10p and 5p. He has successfully recorded seven lots of 30p but has only recorded three lots of 5p. His method is not complete or correct. Tony cannot be awarded the mark.

Carol



1 mark

Tony



0 marks

M18. 60 ÷ 10 = 6
OR
60 ÷ 6 = 10
OR
6 = 60 ÷ 10
OR
10 = 60 ÷ 6

Award the mark if more than one correct answer is given.

[1]

M19. (a) 4

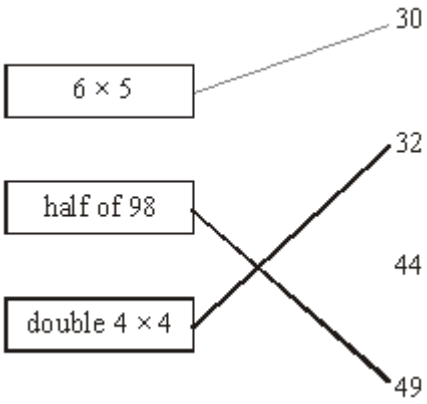
1

(b) 150

1

[2]

M20. Two lines drawn as shown:

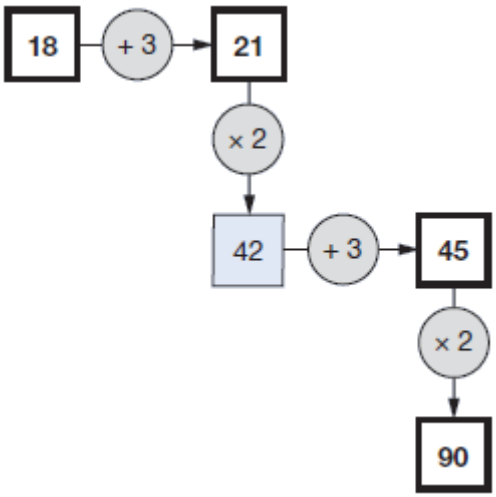


Do not *award the mark if additional incorrect lines are drawn.*

Lines need not touch the boxes or numbers, provided the intention is clear.

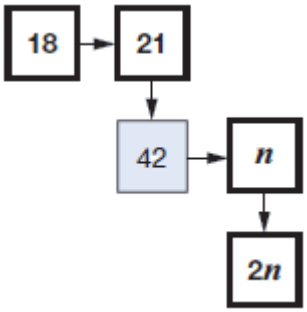
[1]

M21. Award **TWO** marks for all four numbers correct as shown:

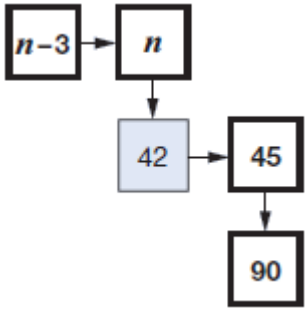


If the answer is incorrect, award **ONE** mark for three numbers correct.

*If the answer is incorrect, award **ONE** mark for two numbers correct **AND** two numbers appropriately linked, ie*



OR



where ***n*** *is any number.*

Up to 2

[2]

M22. Grid completed as shown:

×	1	2	3	4	5
1					
2					
3					
4					✓
5				✓	

Accept alternative unambiguous indications, eg 20 written only in the correct squares.

[1]

E1. No comment available.

E4. No specific response to this question.

E5. 83 % of children achieving Level 2 overall correctly answered this question which involves working out how many ice-creams there are in 7 boxes with 5 in each box.

E8. No comment available.

E10. (a) 90% (76% at level 3, 96% at level 4 and 99% at level 5) answered this question correctly.

This question assessed understanding of inverse operations in the simple context of multiplication tables. Children may have found the answer as '5 goes into 35 seven times' or they may have recognised the problem as × 5 = 35 and recalled the multiplication fact from the 5x table. The most common incorrect response given was '6' which suggests a mistake in calculation rather than not understanding the question demand. Indeed, of those children who responded, all the children achieving level 4 and level 5, and most of those achieving level 3 gave answers of 10 or below which suggests they had tried some sort of division. However, the incorrect response of 30, common amongst children achieving level 3, suggests that 5 had been subtracted from 35 and children had misunderstood what was required.

(b) 75% (35% at level 3, 86% at level 4 and 99% at level 5) answered this question correctly.

This question assessed understanding of inverse operations in the context of division. By contrast with A6a, children achieving level 3 performed significantly less well than those at level 4 and 5. Children found the division problem much harder to interpret than the multiplication problem. One in six children achieving level 3 gave the answer '2' which suggests they subtracted 4 from 6 and misunderstood what was required. More working was evident in this part of the question, than for A6a.

E11. (a) This was the easiest question on the test, and was answered correctly by nearly all children achieving levels 3 to 5 overall. Most children attempted the question, which was answered correctly by slightly more girls than boys.

No common errors were identified for this question, which suggests that there was no problem identifying the calculation 4×8 within the simple context used.

(b) Children who achieved levels 4 or 5 overall performed equally well on parts (a) and (b). However, children achieving level 3 found part (b) harder than part (a). This shows that children working at level 3 found contextualised division more difficult than contextualised multiplication, even when the numbers involved are relatively small and the context is straightforward. At levels 3 and 4, girls performed better than boys in this question, but at level 5 there was little difference between girls and boys.

A common error made by a small percentage of children working at level 3 overall was to multiply the numbers in the question rather than divide, to give $6 \times 30 = 180$. No common errors were identified among those children awarded levels 4 and 5 overall, most of whom answered correctly.

E12. This question asked children to match four pairs of calculations giving the same numerical value. The majority of children achieved the two marks available for this question. All children who were awarded levels 4 and 5 overall achieved at least one mark, with a slightly lower success rate among children awarded level 3. Boys were slightly less successful than girls on this question, across all levels.

No common errors were identified for this question. Children who were awarded level 3 overall found the first calculation, 10 × 5, the most difficult of the four calculations to match to its correct equivalent. The most common incorrect response was 50 × 2.

E13. This question involves multiplying and dividing multiples of 10. Children are assessed on their ability to identify the correct operation required to solve number problems set in the context of buying trays of plants.

The first part of this question was answered correctly by over 90% of children at every level. All children at level 5 gave a correct answer.

There were no trends in the few errors seen for this part of the question.

In the second part of the question over 70% of children at level 3 gave the correct answer; success rates were about 90% among children at levels 4 and 5.

About 5% of children at all levels gave an answer of 34 or 35. This shows that they correctly identified the question as a division problem, but selected the wrong information to divide 240 by seven rather than 20.

E14. This question is designed to assess children's understanding of division as the inverse of multiplication. Children are required to find the missing number to complete a multiplication.

Nearly 90% of children at level 3 answered this question correctly. Failures from children at the higher levels were rare.

Very few errors were seen, with no common patterns.

E15. This question assesses children's understanding of multiplication, including inverses. Children are required to use their understanding to find missing numbers in multiplication calculations.

In the first part of the question, children at all levels were generally successful. More than 70% of children at level 3 answered correctly, as did 90% of those at level 4 and nearly all those at level 5. As a result few errors were seen.

In the second part of the question, success rates dropped slightly at level 3, with 60% answering correctly and 10% failing to give an answer. Success rates for those at level 4 and level 5 were similar to those for the first part of the question.

Incorrect responses were varied and few common errors were seen.

E19. Target Level: 3

Curriculum Coverage (POS ref: Ma2/3b, 3h, 4a)

This question assesses pupils' ability to identify and use the appropriate operations required to solve number problems set in context. The first part of the question requires pupils to demonstrate their understanding of remainders in order to solve a problem involving division. The second part of the question assesses pupils' ability to solve a problem involving multiplication.

Performance

Half of all pupils working at level 3 gave the correct answer of 4 for the first part of the question. Eighty-five per cent of pupils working at level 4 and almost all those working at level 5 were also awarded the mark.

Success rates at the target level were higher for the second part of the question, with almost two-thirds of pupils gaining the mark. Almost 90% of those working at level 4 and nearly all of those at level 5 were also correct.

Common errors and misconceptions

- The most common incorrect answer for the first part of the question was 3. Pupils who gave this response probably divided 83 by 25 but ignored the remainder. These pupils failed to interpret the remainder in the context of the question. Just under 10% of pupils working at level 3 and approximately 5% of those working at level 4 gave this response.
- Errors for the second part of the question were varied, with no common trends.

Resource currently unavailable.