M1. 2 (hours) 40 (minutes)

[1]

M2. (a) 23rd of August **OR** 23.8.98

*Accept 23rd **OR** 23 **OR** unambiguous circling of the correct date on the calendar.*

1

(b) Wednesday

*Accept Wed **OR** recognisable misspellings of Wednesday **OR** Wednesday ringed.*

1

[2]

M3. 12:02

*Accept 1202 **OR** 12.02 **OR** 00:02 **OR** 0002 **OR** 00.02*

Accept 'two minutes past twelve' or equivalent.

Ignore am or pm.

[1]

M4. (a)

Laura **£17.10**

*Accept £17.10p **OR** £17 10 **OR** £17 10p **OR** 1710p written outside the box.*

***Do not** accept £1710 **OR** £1710p **OR** £17.1*

1

(b)

Carl **£10.50**

The above guidance on notation applies also to this mark.

1

[2]

M5. 5

[1]

M6. 9:20

The answer is a specific time
(see Applying the mark scheme for guidance)

[1]

M7. (a) 5

***Do not** accept a list of months.*

1

(b) Answer in the range of 6 degrees to 7.5 degrees inclusive.

1

[2]

M8. (a) Answer for tin can joined to the time line in the range 1805 to 1815 exclusive.

1

(b) Answer for computer joined to the time line in the range 1940 to 1950 exclusive.

1

[2]

M9. 11

[1]

M10. (a) 1 hour 25 minutes

The answer is a time interval

1

(b) 12:10pm

The answer is a specific time

1

[2]

M11. (a) 3

1

(b) 2 hours 5 minutes

The answer is a time interval

1

(c) 18:15

The answer is a specific time
Accept 6:15

1

[3]

M12. 5

***Do not** accept a list of dates.*

[1]

M13. (a) 100 seconds

Answer must be in seconds.
***Do not** accept 1 minute 40 seconds.*

1

(b) 260 cm **OR** 2.6 m

*Accept 260 **OR** 2.6 **OR** 2 m 60 cm.*

1

[2]

M14. (a) £3.00

1

(b) 6

1

(c) 10:20 am

The answer is a specific time.

1

[3]

M15. D B C A

Accept alternative unambiguous indications of the correct order, eg
7:30 7:45 7:54 7:56

[1]

E2. (a) 82% (66% at level 3, 88% at level 4 and 93% at level 5) answered this question correctly.

This question required children to use information on a calendar. The good performance and the high response rate by children at all levels reflect children's familiarity with this context. The most common incorrect response given by children achieving level 3 was "21st", the day rather than the Sunday after Simon's birthday.

(b) 50% (21% at level 3, 51% at level 4 and 83% at level 5) answered this question correctly.

This question assessed children's ability to extrapolate from information given in a calendar. However, since the question asked for a day of the week, in this sense the question was of the multiple choice format and response rates were high at all levels. The most common incorrect answer given by children at all levels was 'Sunday'. This is almost certainly because the 9th of August was on a Sunday. Children may have misread the question or been unable to continue the information on to the 9 September, taking the day from the 9 that was visible.

E3. This question assesses children's ability to solve a problem that involves reading analogue and digital 12-hour clocks.

More than half of children at level 4 were correct, as were over 80% of children at level 5 and over 15% of those at level 3. Over 10% of children at level 3 omitted this question.

A common error for children at all levels was 12:01. Over 15% of children at level 4 and nearly 10% of those at levels 3 and 5, gave this as their answer. This suggests that although these children were able to add and subtract the time accurately, they had used the terms 'slow' and 'fast' incorrectly in the context of the problem. One-quarter of children at level 3 simply recorded one of the given times, suggesting an inability to engage with the problem.

E5. Target Level: 4

Curriculum Coverage (POS ref: Ma3/4d; Ma2/4a)

This question assesses children's ability to solve a problem involving calculating the difference between two time durations presented in 12 hour digital time.

Performance

About 30% of children working at level 4 gave a correct answer as did over 70% of those working at level 5.

Common errors and misconceptions

- Over 20% of children working at level 4 and nearly 10% of those working at level 5 gave an answer of 10, by calculating the difference between the finish times of 11:05 and 10:55 in the race. This suggests that these children may not have correctly interpreted the time in the context of the problem, since they did not consider both the start and finish times.

- Over 10% of children working at level 4 gave an answer of 15, by calculating the difference between the start times of 9:30 and 9:45 in the race and ignoring the finish times.

Methods

- Over one-quarter of children working at level 4 and 45% of those working at level 5 showed some evidence of working on or near the table.

- Annotations on the table were made by 10% of children working at level 4 and 15% of those working at level 5.

- Children working at levels 4 and 5 who showed some evidence of annotations and working were more likely to reach a correct answer than those who showed no annotations or working.

E6. Target Level: 4

Curriculum Coverage (POS ref: Ma3/4d)

This question assesses children's ability to solve a time duration problem. The problem involves drawing on their knowledge that there are 60 minutes in an hour and bridging an hour.

Performance

Over two-thirds of children working at Level 4 were able to give a correct answer. Over 85% of children working at Level 5 and more than one-third of those working at Level 3 were also successful.

Common errors and misconceptions

- Almost 10% of children working at Level 4 gave an incorrect answer of 8:20, one hour earlier than the correct time of 9:20. These children probably failed to realise that bridging the hour would increase the number of hours by three, not two.
- Over 5% of children working at Level 4 and 10% of those working at Level 3 gave an answer of 8:80, suggesting they added correctly but did not convert the 80 minutes into hours and minutes to record the time correctly.

E7. Target Level: 4

Curriculum Coverage (POS ref: Ma4/2c, 2a)

The focus of this question is interpreting and extracting information presented in a graph.

Performance

For the first part of the question, 80% of children working at Level 4 were correct, as were almost 95% of those working at Level 5. Over half of children working at Level 3 were also successful.

For the second part, nearly two-thirds of children working at Level 4 gave the correct answer, as did 80% of those working at Level 5 and almost 40% of those working at Level 3.

Common errors and misconceptions

- Errors were varied for the first part of the question, with no common trends.

- For the second part of the question, the most common incorrect answers fell outside the range accepted for the award of a mark, probably due to inaccurate reading of the lower of the two required values on the graph. This error was made by about a quarter of children working at Level 4 and over 10% of those working at Level 5.

E8. Target Level: 4

Curriculum Coverage (POS ref: Ma3/4b)

The focus of this question is reading scales accurately. Pupils are required to interpret the scale on a time line and to link dates to the correct points on the time line.

Performance

Almost three-quarters of pupils working at level 4 joined the first line (1810) to the time line within the accepted range 1805 to 1815 exclusive and were awarded the mark. Ninety-five per cent of pupils working at level 5 and almost one-third of those working at level 3 were also accurate enough to gain the mark.

Success rates were lower for the second part of the question. Just over half of all pupils working at level 4 joined the second line (1945) to the time line within the accepted range of 1940 to 1950 exclusive, while over 80% of pupils working at level 5 and less than 20% of those working at level 3 were awarded the mark.

Common errors and misconceptions

- The most common error for the first part of the question was to draw a line which joined the time line at 1820, the first unlabelled line after 1800. These pupils probably assumed that each interval on the time line represented ten years, and did not interpret the scale of the time line correctly. More than 15% of pupils working at level 4 gave this response, as did more than 5% of pupils working at level 5 and one-third of those working at level 3.

- Over 5% of pupils working at level 4 and a similar percentage at level 3 joined their line to a point on the time line which was outside the accepted range but was otherwise within the range 1800 to 1820 exclusive. These pupils may have interpreted the scale correctly but not drawn their line with enough accuracy. They may possibly have assumed that anywhere on the time line between the two incremental points of 1800 and 1820 would be accepted.

- For the second part of the question almost 15 % of pupils working at level 4 and more than 10% of those working at level 5 drew a line joined to the time line at 1950. These pupils may have started by correctly counting in 20s to 1940, but then lost track of the scale and assumed five more years would be halfway between two incremental points on the time line.

Resource currently unavailable.