Functional Skills
MATHEMATICS

Level 2
Report on the Examination

4368
January 2016

Version: 1.0

Further copies of this Report are available from aqa.org.uk

General

The four tasks provided the opportunity for students to demonstrate competence in the three process skills of representing, analysing and interpreting.

Some students presented solutions clearly and showed the working required to obtain method marks. These students were often able to gain follow through marks after numerical slips or a previous incorrect method. However, there was also a significant number of students who did not communicate their answers very well.

Questions involving time presented difficulties to some students, who could not convert a decimal time correctly.

Most students made a conclusion in those questions where they were asked to do so; these conclusions were mostly correct. Most used a calculator where appropriate.

Topics that were well answered included:

- money problems (1(d) and 2(b))
- working out a simple mean (2(c))
- solving a problem involving simple proportion (3(c)).

Topics which students found difficult included:

- working out the mean from a frequency table (2(d))
- solving a geometry problem (3(b))
- checking a calculation (4(b) check)
- solving a multi-step problem involving percentages (4(c)).

Task 1

1 (a) This question discriminated well. Those students who calculated the number of days as a percentage of 31 and compared with 20% usually gave a fully correct response. Those who worked out that 20% of 31 was 6.2 sometimes made the wrong conclusion. A common error was to give the number of days that the gritters went out as 5, presumably not including the day when the temperature was 0°C.

1 (b) Nearly all students attempted to work out the total distance, but some did not include one or both of the trips between the depot and Chichester. Most then divided the distance by 50, but converting 1.9 hours to hours and minutes was often done incorrectly. Some students simply added the decimal value on to 4.35 and gave the answer 6.25. A considerable number of students subtracted 50 km from 95 km and estimated that the remaining 45 km would be achievable in the given time with no mathematical justification.

1 (c) The vast majority of students accessed the question and were able to show a partially correct method. However, many students failed to give the full method required for this 'show that' question. The most common error was to calculate two-fifths of 28.

1 (d) This question was well answered, although many students did not score full marks because they did not show two comparable numbers in the same format. For example, they did not convert 3 570 000 to 3.57 million. The other common error was to show an incorrect number of zeros.

Task 2

2 (a) A common error was to only multiply £28 500 by 52, or by their number of weeks in a year, with those doing this not realising that the given amount was for 10 weeks. Many students did not know the number of weeks in a year. Students who scaled the amount using the number of days in a year often truncated their value part way through the method, and a significant minority thought there were 356 days in a year.

The check was reasonably well attempted, although those students using a reverse method did not always give this fully. Those using an alternative method were often more successful.

2 (b) This question was well answered. Many students obtained the correct profit, although some divided this by 3 instead of multiplying by 3. Those who attempted a percentage profit were often successful, although some did not show the conversion of one third to a percentage. Some thought that one third was equal to 30%.

2 (c) This question was very well answered.

2 (d) As usual there was a poor response to calculating the mean of a frequency distribution. Many simply worked out 27 + 28 + 29 + 30 and then divided by 4 or by 25. Others compared sales for 20 weeks with sales for 25 weeks, with no scaling or mean calculation. A small proportion of the students gave fully correct methods comparing means and others correctly scaled totals to compare sales over 20 weeks, 25 weeks or 100 weeks.

Task 3

3 (a) This was another question that discriminated well. There were many ways to approach the problem, with working from 9.40 to 1.30 or from 1.30 to 9.40 being the most commonly used. Some students made conceptual time errors with 210 minutes often becoming 2 h 10 minutes and 3.5 hours becoming 3 hours 50 minutes. Some students failed to show full working. Weaker students found the formula challenging and it was not uncommon to see $T = 4.5 + 30$

3 (b) This question was not well answered. Many students attempted to use area calculations and some used perimeters. Those students who worked out how many puddings would fit along each side often gave fully correct solutions, although some added 5 and 3 while others did not use truncated values.

3 (c) There were many fully correct responses to this question. Occasionally, students gave a third item such as 50 ml of milk. A few students omitted or used incorrect units such as 175 g of cream. When scaling the quantities some students rounded prematurely, which meant they had an answer of 124 g or 124.9 g of sugar. Weaker students simply multiplied the original list by three.

Task 4

4 (a) Many students worked out the thickness of the inside pages and forgot to include the cover. Some worked out the cost of the binders in this part, either as well as, or instead of, doing what was required.

4 (b) There were some fully correct responses to this question; however, many students calculated the total cost of booklets rather than the cost of the binders. Some of those who did attempt to calculate the cost of the binders gave the answer with incorrect money notation.

The check was poorly answered, with many students making no attempt. Those using a reverse check did not always give a full reverse method. Students who used an alternative method were often more successful.

4 (c) This multi-step question was another good discriminator, with many students finding it too demanding. Most managed to attempt the number of inside pages, although often added or subtracted the covers, but then worked out 15% of these. It was common for students to omit the extra costs for paper type or to add 1p or 5p on after the other calculations were complete. Many forgot to include the cost of binders. Some students chose 7.5% rather than 15%. Fully correct solutions were rare, and there was a significant number of non-attempts.

4 (d) Many students gave fully correct responses. A common incorrect approach was to work out the total weight of all 90 booklets and then divide by 10 kg. Occasionally, students did not round the number of booklets per box down or the minimum number of boxes up. There was a significant number of non-attempts.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the Results Statistics page of the AQA Website.

Converting Marks into UMS marks

Convert raw marks into Uniform Mark Scale (UMS) marks by using the link below.

UMS conversion calculator