Functional Skills Certificate

MATHEMATICS

4368 Level 2

Report on the Examination

4368

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General

Overall, students found this assessment accessible. There were fewer very low scores than usual and the proportion of non-attempts was more or less as expected, with fewer students than usual experiencing time pressures. Consequently, the assessment provided the opportunity for most students to demonstrate their abilities in the three process skills of representing, analysing and interpreting.

Many students presented solutions clearly; they generally showed reasonably full working, with most using a coherent step-by-step approach which helped them gain credit for method marks after a numerical slip or a previous incorrect method. A relatively small number of students communicated their method haphazardly or gave no method at all.

Most students made a conclusion in those questions where they were asked to do so, but sometimes they did not present enough evidence to justify their conclusion.

Some students seemed to have not make as much use of the pre-release data sheet as they might have. Most students used a calculator where it was appropriate to do so.

Topics that were relatively well answered included:

- comparing mean weights of fish given in pounds and ounces (1(b))
- comparing weights in imperial and metric units (1(c))
- working out the cost of 60 cards given the cost of 15 (3(a))
- fitting the maximum possible number of L-shapes in a grid (3(b))
- working out the cost of ticket prices for a family of four (4(a))

Topics which students found difficult included:

- estimating to a suitable degree of accuracy (2(c))
- checking that finding a fraction of a quantity is correct (2(d) check)
- solving a multi-step problem involving ratio, percentage, cost and profit (3(c))
- working out a problem involving time, distance and speed (4(b))

Task 1 Angling

1 (a) This was a straightforward question, and a large number of students showed full understanding of the procedure given in the data sheet to obtain full marks. Most of the other students clearly did not understand the procedure required, suggesting perhaps that many had not taken the opportunity to familiarise themselves fully with the data sheet.

1 (b) Most students made a reasonable attempt at this question, with a fairly high proportion scoring 4 or 5 marks. This indicated that they knew how to use the given conversion factor and also how to find the mean of a small number of values. Not all students showed mastery of both of these skills. Most errors occurred in the attempted conversion between pounds and ounces; some students, for example, treated the number of ounces as a decimal with 19 lb 12 ounces becoming 19.12 pounds. A sizeable number of students did not work out the means after correct conversion. A common error in finding the mean was to divide both sums of masses by 4. A number of different ways of using the conversion factor were seen, with the method that led to most success being to convert all masses into ounces. Some who did this went on to unnecessarily convert their ounces into grams.

1 (c) A variety of methods was seen, with many of them successful. Converting 20 lb 3 oz to 323 ounces and then converting to grams led to the most success. To score any accuracy

marks the two masses had to be converted to an equivalent form to enable a valid comparison to occur, but not all students did this. A fully correct answer invariably involved knowing that there were 1000 grams in a kilogram, which some students did not know.

Task 2 Council Tax

2 (a) A fair number of students gained full marks, but overall this question was answered poorly when taking into consideration the example on the data sheet. Most students did not get further than 2977.11 ÷ 10, with most of these not even rounding their answer as required. Some lost the accuracy mark by failing to include the £ symbol in their answer.

2 (b) To gain full marks for this question students had to start by choosing the correct Council Tax for Dan's old and new homes. Few managed to do this, resulting in a poor result for most. Some students interpreted 'discount' incorrectly by assuming that the Council Tax was actually 25% of their yearly amount rather than 75%. Others attempted to work out their monthly Council Tax (often incorrectly) and based their conclusion on this rather than the yearly amount.

2 (c) This question was poorly answered, with most students gaining no more than 1 mark for a correct attempt at working out 8% of £38 320 000. Very few students realised that the given figure was for the year and did not divide by the equivalent of 52 to obtain a weekly figure. Very few students showed any rounding to try to give their answer to a suitable degree of accuracy.

2 (d) Overall, just over half the students knew a correct method to answer this question. Nearly all those who started by attempting to convert $\frac{7}{9}$ to a decimal subsequently lost the accuracy mark because of premature rounding. A significant proportion did not attempt this question. The check was reasonably well done, with many choosing a valid reverse method.

2 (e) Overall, only about half of the students answered this correctly.

Task 3 Christmas Cards

3 (a) This question was answered very well, with the majority obtaining full marks.
The check was well done, although weaker students simply repeated their original calculation.

3 (b) This question was answered well, with most students gaining 2 or 3 marks.

3 (c) Many students found this multi-step, problem-solving question a challenge and relatively few obtained a fully correct solution. However, of the relatively high proportion who made an attempt the majority scored 2 or more marks. There were two main stumbling blocks: firstly, only a small proportion of students worked out the correct number of sheets of paper required to make the boots (in particular, they did not take into account that two boots were needed for each card), and, secondly, a significantly large proportion were confused by Laura's statement and did not attempt to work out both the profit and 65% of the cost (errors here included working out 65% of the selling price rather than the cost price, not working out the profit and not having a secure method for working out 65%). Weaker students made elementary mistakes; for example, omitting £43.50 and/or £16.50 when working out the total cost.

Task 4 Winter Wonderland

4 (a) This question was very well answered, with nearly all students scoring full marks.

4 (b) Many students scored 1 or 2 marks for this question, but a relatively small proportion gave a fully correct answer. Many students were unable to work out how long it took to drive 80 miles at a speed of 50 miles per hour, and for those who used a valid method, converting 1.6 hours to 1 hour 36 minutes proved problematic. Taking into account the arrival time of 45 minutes before the first activity was the only source of marks for the majority.

4 (c) A fair number of students responded well to this question and produced a workable and well-communicated plan scoring 4 or 5 marks. It was quite difficult to score 5 marks, as there was only one option for the afternoon (Sleigh ride, Reindeer and Winter crafts in any order) to maximise the number of tasks; so choosing one of these before lunch made this impossible. Common errors included missing out the 10-minute gap between activities and forgetting about lunch or Mrs Christmas. A minority of students also allocated activities before 10 am or when the family were on their way home. Occasional errors in start and finish times were also seen. A relatively high proportion of students did not attempt this question.

4 (d) A relatively high proportion scored 1 or 2 marks for 5 ‘sleeps 4’ and/or 4 ‘sleeps 5’. A small number of students gave either of the two answers which involved combing two sizes of lodge. A relatively high proportion made no attempt at this question.

Mark Ranges and Award of Grades

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