Functional Skills Certificate

MATHEMATICS

4368 Level 2

Report on the Examination

4368

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General

Overall, students found this assessment more difficult than usual. There were a significant number of very low scores and a relatively high proportion of non-attempts, which affected the overall response to most questions, particularly in in task 4. The main reason for this was the significant number of multi-step, problem solving questions, which many students found challenging and often time-consuming.

However, the assessment did provide the opportunity for many students to demonstrate their abilities in the three process skills of representing, analysing and interpreting.

Many students presented solutions clearly and showed their working in full using a coherent step-by-step approach, thus ensuring credit for method marks after a numerical slip or a previously incorrect method. However, many students communicated their answers and method haphazardly, often leaving out crucial steps in their working.

Most students made a conclusion in those questions where they were asked to do so, but often had not presented enough evidence to justify their conclusion. It was also evident that some students had not made as much use of the pre-release data sheet as they might have and, in some cases, seemed unfamiliar with its contents. Most students used a calculator where it was appropriate to do so.

Topics that were relatively well answered included:

- substituting into and evaluating a formula (1(a))
- showing that the area of an L-shape was a given value (1(b))
- showing the position of simple shapes on a scale drawing (1(d))
- using a simple ratio (2(a))
- completing a rota using given criteria (4(c)).

Topics which students found difficult included:

- checking that the evaluation of a formula was correct (1(a) check)
- solving a multi-step problem involving finding the cost of covering an area (1(c))
- solving a multi-step problem involving ratio, a fraction and cost (2(b)
- working out the mean of a discrete frequency distribution (2(c))
- solving a problem involving the conversion of points to money at different rates (3(d))
- solving a simple direct proportion problem involving relatively difficult values (4(b))
- checking a two-operation calculation (4(b) check)
- solving a problem involving the application of volume and conversion of units (4(d).

Task 1 Winset Park

1 (a) Most students could substitute into the given formula and evaluate correctly, but some lost marks by using values from the example on the data sheet rather than from the question

The check was done poorly, with many students simply repeating their original calculation.

1 (b) Most students knew how to find an area although not all showed their full method for obtaining the given value which is necessary to gain full marks in a ‘show that’ question. Some students attempted to work out the perimeter not the area.

1 (c) This question was poorly answered. Most students did not appreciate that the cheapest combination of large and small bags needed to cover the given area was required and many of those who tried to find a combination did not use a method that gave the cheapest value. The most common approach was to compare the number of large bags needed to cover the whole area with the number of small bags. The awareness of when it was appropriate to round down or round up also created significant problems, and many students failed to appreciate the need to round at all, often working out the cost of 123.3 large bags when it was possible only to buy 123 or 124

1 (d) This was answered reasonably well, with most students obtaining three or more marks. Common errors included the inability to draw the roundabout (a circle) or the square (climbing frame) to the correct size and use of an incorrect (double) scale which made it impossible for all the items to fit. Many students did not use compasses to draw the required circle.

Task 2 Garden birds

2 (a) This question was answered reasonably well, with the majority of students showing full awareness of ratio. However, not all students provided a complete explanation of why 80 g of bird feed was required in each fat cake. The most common successful approach was based on 120 ÷ 3 × 2

2 (b) Students found this multi-step question very challenging, and although a minority did provide a well organised and fully correct solution it was generally poorly answered, with a very high proportion either scoring zero or making no attempt. A lot of students presented very confused working, with many starting the question again and ignoring the ratio aspect altogether.

2 (c) As in previous series, very few students showed a correct method to find the mean of a discrete frequency distribution. Many gave a completely inappropriate value for the mean number of sparrows in the gardens; for example, a common mean was 89.2 (from 446 ÷ 5) even though the maximum number of sparrows the students counted was 5

Task 3 Saving money

3 (a) Many students answered this question well, with many working out accurate percentages. However, translating these values into a correct solution to the question proved a challenge for many. A fairly common error was not taking into account ‘years’ and ‘months’ correctly to obtain the cashback total of £21.12, and many of those who did obtain this total did not then deal with the £100 interest and the £60 fees correctly.

3 (b) Many students circled the correct answer to this multi-choice question. The most common incorrect answer was £1800, indicating a failure to convert from pence to pounds correctly.

3 (c) Many students answered this question fairly well, although some failed to take into account all sources of points; for example, a few gave only 3650 points for spending at Westco supermarket or 325 points for using the credit card in other shops. A common error was in working out the **extra** points for using the credit card, with 3200 + 900 ÷ 4 often worked out as 3425 points instead of (3200 + 900) ÷ 4 being worked out correctly as 1025 points.

3 (d) Overall, this question was poorly answered, with many students incorrectly converting points to pounds with calculations such as 3200 ÷ 0.04 instead of 3200 × 0.04. Consistent units also caused problems, with confusion between pence and pounds. Some of the students who managed to obtain £37 from £165 - £128 failed to add £25 to obtain the correct solution

Task 4 Fitness club

4 (a) This question was answered reasonably well. Many students dealt with the VAT calculations correctly, although not all of these went on to obtain full marks. Common errors included thinking that adding 20% to the cost for two people meant adding 40%, ignoring VAT completely and adding VAT to the cost of the Family ticket which already had VAT included. There are still a significant minority of students who do not have a valid method for working out the percentage of a quantity, a basic functional skill and a minimum requirement for the Level 2 assessment.

4 (b) Many students divided 688 by 60, wrote down a truncated or rounded answer to this, multiplied by 7.5 and obtained an inaccurate solution; these students lost the accuracy mark. Other common errors included working out 688 ÷ 7.5 and using 7.3 for $7\frac{1}{2}$ minutes (from 7 minutes 30 seconds).

The check was done poorly, with many students simply repeating their original calculation; a high proportion made no attempt.

4 (c) Most students gained 2 or 3 marks for this question, although a significant minority scored zero or who made no attempt. The criteria relating to Amy were most often met. Completing the rota by meeting the criteria for Kim, Sal and Tom caused more problems.

4 (d) A high proportion made no attempt at this question. The majority of those who did scored the first mark, but relatively few went on to obtain a fully correct answer.

Mark Ranges and Award of Grades

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