AQA

Functional Skills Certificate
MATHEMATICS

4367 Level 1
Report on the Examination

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REPORT ON THE EXAMINATION – FUNCTIONAL SKILLS MATHEMATICS –4368 – JANUARY 2018

General

The paper met its purpose of providing most students opportunities to show their capabilities in the three process skills of representing, analysing and interpreting. However, some found the longer multi-step questions a challenge and others experienced time pressures and did not complete the paper in the time available. A minority of students found both the demands of the mathematics and the language involved in most questions beyond them.

On the whole solutions were well presented, but a significant number of responses were difficult to follow, particularly in the higher mark questions. Some students gave isolated answers with no method shown, putting themselves at a significant disadvantage with no possibility of scoring follow through marks.

Most students made a conclusion in those questions where they were required to do so. Some students did not appear to have had access to a calculator and it was clear that some students were not as familiar with the pre-release Data Sheet as they might have been.

Questions that were well answered included:

- working out the number of minibuses required to carry 90 people (question 1(a))
- working out the number of miles travelled on a return journey (question 1(c))
- working out whether a minibus could pass under a low bridge (question 1(e))
- using given information to allocate dogs to cages (question 2(d))
- using given information to allocate seats to two people (question 3(c)).

Questions which students found difficult included:

- working out the amount of petrol used on a given journey (question 1(b))
- using the perimeter of a rectangle to solve a problem (question 3(b))
- most multi-step questions (questions 1(d), 2(a), 3(d) and 4(d)).

Task 1 Minibus

1 (a)   This main part of this question was well answered.

On the whole the check was also done well, but a number of students only gave one method, making the checking mark impossible to obtain. Some of those who showed a method simply repeated it rather than attempting a reverse calculation or an alternative method.

1 (b)   This was not well answered, with the concept of miles per gallon apparently unfamiliar to many students. A common incorrect answer was 15 (miles per gallon), which was the petrol used for all six minibuses. Another common incorrect answer was 3 gallons.

1 (c)   This question was done well, with most students obtaining the correct answer. A minority obtained 168 miles but did not double it and a few students did not appreciate how the table on the data sheet worked, adding all the lengths along the row from Bristol to Truro.

1 (d)   Many students scored fairly well on this multi-step question, but a fairly small proportion obtained the fully correct answer of £29.82. Common errors included:
   - adding pounds for the daily charge to pence for the mileage charge
   - forgetting the daily charge after working it out so that each friend paid only £23.52
   - dividing by 6 (the number of minibuses) or by 3 (the number of days) instead of by 10 (the number of friends)
   - not including the £ symbol in the final answer.

1 (e)   Many students could follow the steps on the data sheet accurately and presented solutions showing full method to gain all the marks for this question. A few clearly knew what to do but did not present the full method and lost marks because of this. A significant minority showed no awareness of the steps on the data sheet.

Task 2   Guide Dogs in training

2 (a)   Many students found the correct time and scored full marks for this question. Most scored some marks, but made errors including:
- o   using 45 minutes for a quarter of an hour
- o   not using all of the times given in the question in their calculation
- o   subtracting 55 minutes from 8.45 am inaccurately
- o   treating 55 minutes as a decimal and presenting calculations like 8.45 – 0.55 = 7.9

Some students started with a time that Sarah left home and added on the given times to see if she arrived at 8.45. These students were less likely to obtain the correct solution than those who tried to find the total time and then subtracted it.

2 (b)   Most students managed to choose 382 g from the table and went on to halve this successfully, but some either did not halve it or made an error when doing so.

Problems similar to those prevalent in question 1(a) were encountered with the check, with a fair number of students only showing a single method for halving 382 and some showing the same method twice.

2 (c)   A lot of students found 192 g for the amount of dog food in two cups. Many of these went on to try and find the number of grams in two and a half cups, but did not always obtain 240 g. Those who obtained both 192 and 240 often made an incorrect conclusion, interpreting "between" incorrectly. Similar problems with the conclusion occurred with those students who calculated that two and a quarter cups were required from 216 ÷ 96

2 (d)   This question was answered very well, with many students scoring full marks.

Task 3   Dance Show

3 (a)   This question was fairly well done, with many students obtaining full marks. However, a significant number obtained only one mark, either for drawing just one sash of the correct size or six or more sashes of the same incorrect size. A fairly high proportion did not attempt this question.

3 (b)   This question was poorly answered, with many students failing to include the whole perimeter of the sash in their calculations. A common incorrect answer was 4000 cm, being half of the length required. A small proportion of students first worked out the area of the sash before multiplying by 25; others multiplied by 11 (the number of sashes from question 3(a)). A high proportion did not attempt this question.

3 (c)   This question was well answered, with most students obtaining the correct answer.

3 (d)   Many students found this multi-step question difficult, with relatively few fully correct solutions. Common errors included:
- o   using an incorrect total number of seats
- o   working out the ticket receipts for one night but then failing to double for two nights
- o   not subtracting the total cost of £960 from their ticket receipts to work out the profit.

Task 4 Wages

4 (a)   A reasonable proportion of students presented a fully correct method for working out the mean number of T-shirts made per hour. However, a fairly high proportion did not attempt this question.

4 (b)   Many students were able to follow the steps given on the data sheet and found that the fair rate was 84p per shirt, not 75p. Some students started with the wrong minimum wage value and lost one mark. Others followed one of the steps incorrectly, for example by multiplying by 8 instead of dividing in step 1, but gained marks on follow through for the following steps. A significant number showed no awareness of the required steps and a fairly high proportion made no attempt.

4 (c)   Many students made no attempt at this question, but those who did were mostly successful, with a high proportion obtaining full marks. The most common error was failing to multiply by one of the values, usually the number of days or the number of hours.

4 (d)   This multi-step question was not particularly well answered, with a fairly high proportion of students making no attempt. Common errors included:
- o   not working out 2000 × 4.99 for the total income from selling the skirts
- o   not working out 2000 × 1.64 for the total amount paid to the piece workers
- o   not including all costs when working out the total cost of making the skirts
- o   not subtracting the total cost from the total income to work out the profit.

Mark Ranges and Award of Grades

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