



FUNCTIONAL SKILLS MATHEMATICS

4367 Level 1

Report on the Examination

4367

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General

The majority of the paper appeared to be accessible to its target group although there were some concerns that the last two parts of Task 4 were either too demanding or students ran out of time

Working was usually clear with indications that most students understand what is required for answers to functional questions. The majority of students gave conclusions where they were asked for, ensuring that they were given credit for their interpretation skills. There was evidence that some students did not use a calculator.

Topics that were well done included:

- buying fridges and display units within a budget
- working out quantities for a recipe
- symmetry
- following the steps for a formula.

Topics which candidates found difficult included:

- working out the number of boxes that would fit on a tray
- calculating the number of packs of wool required - including rounding
- multi-step calculations for the costs of producing items
- checking answers.

Task 1

- (a) This question was generally well answered. The most common correct response involved closing times of 7 pm and 6 pm or vice versa. Some students miscalculated the hours open from Monday to Friday, but were then able to gain the next two marks on follow through by correctly subtracting from 80 and producing valid closing times. Many candidates produced chaotic workings and in some cases misunderstood the question completely. A common incorrect answer was to assume that the 12 hour opening routine was continued through the weekend giving closing times of 8 pm and 9 pm for Saturday and Sunday.
- (b) In this question the most successful approach was to add up all the lengths of the walls and divide by 3. However, a large number of students tried to divide each length by 3 first but then often did not know what to do with the remainder. A small number successfully joined small remaining parts together to make 3 m lengths, but the majority rounded up or down to a whole number for each separate length. A small number of students omitted the 3 m length near the door.

The simplest way to check the answer was to multiply their result by 3 which should have given the total length of all the walls. Only a small number of students did this. The majority just repeated the same calculation.

- (c) The majority of students did well on this question, generally calculating the correct number and type of fridge and display units that could be purchased. However, many lost marks for poor communication with a large number failing to explicitly identify the numbers of the fridge and display units they were buying. Some students made arithmetical errors. A very small number used the number of bottles as the cost for the fridges.

Task 2

- (a) This question was not well answered with a large number of students not realising that they needed one member of staff for every 8 students, though this information was on the pre-release data book. The weakest students said that Mr Shah was wrong because he could take 55 – the maximum given on the data sheet. There were some very good answers which, in addition to showing that the number of staff and students would total 54, stated that no more students could be taken as one more staff member would also be needed.
- (b) The majority of students could work out the total costs for the 36 students. However only the most able realised that 3 members of staff would go free. Those who produced costs for 5 staff could still follow through with correct methods and gain credit. The most common problem was in working out 90% of their total cost – the majority found 10% and worked with this figure. Those who managed to find a value for the cost of students and staff, usually then divided by 36 correctly. Students who decided to work out 10% off the individual costs usually did that well but did not progress further.
- (c) Most students attempted to work out total scores for Harry and Maya although answers were not always accurate. This gave them a basis for stating that Harry was better. A small number also found the mean or mode. Very few gave two different reasons. For this the mean and median were acceptable, as was the mean or total and some explanation that Harry scores high scores (9 and 10) on half of his arrows whereas Maya only scored one 9 and one 10.

Task 3

- (a) Scaling up the recipe was answered well.
- (b) A large number of students multiplied 120 by 70p. However, many of these students could not convert correctly to pounds, usually giving £8.40 as their answer. A small number of students split the 120 cupcake boxes into 100 at 70p each and 20 at 85p each, misunderstanding the data entirely.

The majority of checks were repeats of the same calculation. A simple reverse calculation would have done.

- (c) The two most common errors in this question were to omit the cost they had worked out for the boxes in (b) or to use 30p as the total cost of the ingredients. The least able students just multiplied 120 by £2.50 and concluded that she made £300 which is more than £150.
- (d) Fitting shapes into an area proved demanding for the majority of students though this is a common topic on functional papers. Very few tried to use the scale to draw the boxes. The more able students could fit the boxes onto Tray B properly but, for Tray A they either multiplied 9 by 4.8 or by 5. A small number used perimeter and a significant number worked out the total area of the tray divided by the total area of the box. This worked for Tray B but not for Tray A. Students should be discouraged from using this method.

Task 4

- (a)** This question was well answered by the majority of students.
- (b)** In this part, most students could draw the first reflection but there were a lot more problems with the repetition of the pattern. It was clear that a large number of students had not followed the instructions on the exam data book.
- (c)** Again this question required use of the data book but, in this case, it was answered very well. A very small number of students thought that the value 20 250 was 20 lots of 250.
- (d)** Only the most able students could tackle this question successfully with the majority just working with the numbers 160 and 60 and not referring back to the 20 250 strands needed. A significant number of students did not attempt this question.
- (e)** This question also proved to be quite demanding. This was surprising as most students usually cope well with questions on money. Good attempts were made in calculating the cost of the canvas but the majority did not realise that, to work out the cost of the wool, they had to use double their number of packs from (d) to allow for both colours. There was a high proportion of non-attempts which may have been due to either the complexity of the question or time issues.

Mark Ranges and Award of Grades

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