



Functional Skills

MATHEMATICS

Level 1

Report on the Examination

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General

The paper, apart from one or two questions, was accessible to the majority of its target group. In addition, there were fewer non-attempts than usual, suggesting that few students experienced time difficulties. On the whole, working was fairly clear and concise and showed that most students understood the nature of a functional assessment; most also gave correct conclusions where they were required, ensuring credit for interpretation skills. On occasions, some students demonstrated poor numerical skills, perhaps indicating the lack of a calculator or the ability to use one effectively. Most students appeared to have familiarised themselves with the pre-released data sheets.

A number of students experienced difficulty in interpreting 'less than' questions. For example, in **4(b)**, 'by 6.30' was sometimes interpreted incorrectly as 'at 6.30' and in **1(f)** 'over £350' was sometimes interpreted as '= £350'.

Centres should remind students that they must **not** write outside the marked area on the examination paper; if they do not have sufficient space they should use an additional sheet, and not write elsewhere on the paper or the insert.

Topics that were well done included:

- Solving simple coordinate problems in context
- Choosing coins for a given total
- Comparing two simple sets of data
- Solving a multi-step problem involving halving a sum of money
- Solving a problem involving scaling the ingredients for 6 people to 12 people
- Working out the area of a rectangle, with the formula for area given
- Working out the total charge for a number of items with unit cost given
- Choosing values $\leq 0^{\circ}\text{C}$

Topics which candidates found difficult included:

- Solving a problem involving exact amounts of money selected from given coins
- Checking that the area of a rectangle has been calculated correctly
- Solving a problem involving the perimeter of the base of a cuboid
- Working out the total cost of a combination of items involving different unit costs
- Calculating a total charge after 10% discount
- Solving a 'simple' problem involving speed, distance and time

Task 1

- 1(a)** Answers to this question were nearly always correct.
- 1(b)** Answers to this question were nearly always correct. although, occasionally, D2 or D4 was seen.
- 1(c)** Many students correctly identified 5 coins and gave the correct units clearly. Some students failed to provide the units on all their chosen coins and some only gave 4 coins. Many students gave a well communicated check that their total was correct. Sometimes this was not attempted, with some students just checking that they had 5 coins rather than their correct total value. Some thought that just writing the total of £1.45 or stating that the coins added up to £1.45 was sufficient. A few gave non-existent coins such as 30p.
- 1(d)** The line about paying for each item separately was frequently missed or ignored, leading to many incorrect responses. The majority of students simply totalled the cost of the two items and the total of the coins and said Yes, with 10p spare.
- 1(e)** Most students realised that they had to add up the daily sales, although not all did this correctly; most then went on to make the 'correct' decision based on their totals. Misconceived approaches, occasionally seen, were to compare the number of days each muesli bar sold most, or simply to comment that Tuesday had the smallest number sold and conclude that raspberry should be replaced on that day.
- 1 (f)** The majority of students gained full marks, but a small number either did not give a conclusion or said 'No' as she was £5 over £350. Some made arithmetical slips when attempting to halve 870 and some subtracted 80 first and then often made errors in attempting to halve 790. A significant number showed no working apart from their final total; if this was incorrect they scored zero.

Task 2

- 2(a)** Overall, this question was fairly well done, with a good proportion of students gaining high marks. Common errors included forgetting about either the 30 minutes cooking at 220°C or the final 15 minutes before serving; some students also allowed only 1 hour cooking at 170°C. Numerical slips were fairly common; for example, when attempting to convert 195 minutes to hours and minutes, when subtracting 3 hours 15 minutes from 4 pm or when adding on 30 minutes followed by three lots of 50 minutes to 1 pm. Treating time in minutes as though there are 100 minutes in an hour was also seen. For example, 150 minutes sometimes became 1 hour 50 minutes. In a minority of cases, 195 minutes became 1 hour 95 minutes and then 2 hours 35 minutes.
- 2(b)** A high proportion of students knew that double the quantities were required for 12 people, although some stopped at that point. Most went on to obtain the correct answers, although some thought that 2 eggs or a vanilla pod were required as well or made an arithmetical error in their subtraction. Some did not include units or gave the wrong units for one of the quantities. Again, a significant number showed no working apart from the final values.
- 2(c)** Most students multiplied 20 by 15 and obtained 300. Many went on to give the correct conclusion, but a significant number concluded 'No', thinking that Nadia needed 340 cm² of icing. The most common error was an attempt to work out the perimeter. A very small number either doubled 300 or doubled 340.

The relatively small number of students who gained the checking mark almost always worked out $300 \div 20 = 15$ or $300 \div 15 = 20$. A large number thought that the check involved subtracting 300 from 340 to show there were 40 cm² left. Many others just repeated the same calculation. A small number stated that they checked using a calculator but gave no evidence of an alternative calculation without a calculator. A significant proportion did not attempt the check.

- 2(d)** A high proportion of students did not interpret the 3-dimensional diagram in this question correctly. Errors included subtracting 2 instead of adding 2, multiplying the dimensions rather than adding them before adding 2, and including the height of the box in their calculation. The correct method followed by numerical slips was also seen.

Task 3

- 3(a)** A significant number of students approached this question correctly and selected the appropriate values to multiply together. However, not all of these scored both marks, often because they did not convert the result of their calculation to pounds correctly or because they missed out the £ symbol. Many students went on to do extra work appropriate to **3(b)** but were not penalised for this.
- 3(b)** Many students found that working out the total cost of 45 booklets was both involved and difficult, and only a relatively small proportion obtained a completely correct solution. Many of the problems involved inconsistent units; in particular, 45×65 became £2925 instead of 2925p or £29.25 and 8p became 0.8, or $8p \times 120$ became £96. The relatively small number of students who attempted to work out the cost of one booklet and then multiply by 45 tended to have fewer problems with inconsistent units. A small number of students forgot to add the cost of the binders from **3(a)**. The majority of students made the correct conclusion based on their final value.
- 3(c)** Overall, this question was fairly well done, with a good proportion of students gaining high marks. All the alternative methods were seen, but Alternative method 1, showing that the 4 boxes could only hold 6000 leaflets, was by far the most common. However, some misunderstood the statement made by Sue and, after 6000 was calculated, thought the decision was 'Yes'; some made no decision. Those attempting Alternative method 3 often found 1625 but did not find or state 1500.
- 3(d)** Students experienced the same sort of problems involving inconsistent units as they did in **3(b)**. However, the relatively low proportion of fully correct answers was due mainly to students failing to either interpret or work out the discount correctly. For example, many calculated 10% correctly but failed to subtract it from their total. There was also a fairly large number who did not use a valid method for working out 10%; some of these, however, scored the mark for subtracting their incorrect value. Some students did not identify 10% and attempted to work out a discount of 5% or 15%.

Task 4

- 4(a)** Most students answered this question correctly. Some, however, did not circle 0°C.
- 4(b)** Students found this question difficult. Attempting to work out the total distance was a common starting point, but many obtained 53 miles or 56 miles rather than 59 miles and many did not know what to do with this value. A few students also worked out that 4.30 to 6.30 was 2 hrs, although some thought that this was 3 hours. Of those students who went on from here, quite a few used Alternative method 1 and subtracted 30 from their total distance to see what was left but then stopped. Others used Alternative method 2 and divided their total distance by 30, but often they did not realise they had to compare this with 2 hours, which needed to be shown as well. A fairly high number of students did not attempt this question.
- 4(c)** Overall, this question was fairly well done, with a good proportion of students gaining high marks. For the better responses, the most common error was to have someone working 3 nights in a row. Some students did not have Andy on the correct 3 nights. Weaker responses included having the same person doing two shifts on one night. A small number of students did not complete the whole grid but could sometimes place Andy on the correct nights.
- 4(d)** Some students used an incorrect interpretation of what a circuit was and added one or two distances of 3 miles, the distance of the depot to Chichester; others made numerical slips in working out this value. Some forgot that there were two circuits and failed to multiply by 2. A significant proportion did not attempt 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.

Converting Marks into UMS marks

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

[UMS conversion calculator](#)