



Functional Skills

Mathematics

Level 2

Report on the Examination

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General

The four tasks provided the opportunity for students to demonstrate competence in the three process skills of representing, analysing and interpreting.

There were some very good attempts in all tasks, but there were also many parts with a high number of non-attempts. It is likely that some students had not familiarised themselves sufficiently with the data on the pre-release materials, evidenced by some of the responses seen in Tasks 1 and 2.

Some well-presented solutions were seen, and often students were able to gain follow-through marks after numerical slips or a previous incorrect method. There was also a significant number of students who did not communicate their answers well and failed to show sufficient working.

Most students made a conclusion in those questions where they were asked to do so and these conclusions were mostly correct. Most used a calculator where appropriate.

Topics that were well answered included:

- money problem using information from a table (1(c))
- money problem involving percentages (2(a))
- analysing a graph (3(c)).

Topics which students found difficult included:

- checking answers (1(b) and 2(d))
- working out a ticket price (2(e))
- complex money problems (3(a) and 3(d))
- working out a mean from a frequency table (4(b)).

Task 1

Part (a) was a good discriminator. Many students were able to work out the area of the room accurately, but not all students showed all their working, so it was not always possible to see whether or not the scale had been used. Most students showed that the juniors or seniors needed 45 square metres of floor space. Some wrote $3 \text{ m}^2 \times 15$ and then worked out 9×15 . Some of the weaker attempts used the perimeter. The most common error was to ignore the extra floor space needed by the dance teacher.

In part (b) there was a significant number of fully correct temperature calculations but, there were more students who could not use the formula from the data sheet correctly. The common error was to work out $19 + 32 = 51$. In the check, students often repeated the same calculation or only reversed part of it. Occasionally, students tried to do a full check in one reverse calculation, but these students often omitted the necessary brackets. There was a high number of non-attempts in the check.

Part (c) was well answered. Occasionally, students omitted one of the necessary products or made arithmetic errors. Some students only worked out the income rather than the profit.

Task 2

Part (a) was well answered. The most common error was working out 35% of £375 incorrectly. Some correctly stated that 10% was £37.50, but they often did not show correct working for 5% (eg $£37.50 \div 2$). Many students worked out 65% of £375, often after correctly working out 35%. 30% was also frequently seen. A significant minority of students who had worked out the cost of both options correctly did not show evidence of the final subtraction and just gave a decision.

Part (b) was quite well answered. Those students who understood that they needed to combine the two timetables by changing trains usually gave a fully correct solution. The most common station to choose to change at was Central. Occasionally, students gave a sequential journey that was not the quickest option or that did not arrive in the required time interval. Some did not correctly interpret the timetables from the data sheet. Some students simply read down one column of the first timetable and extended that into the second timetable, so that they went via Bank Hall.

In part (c), students who could process the information about ticket prices from the data sheet were able to correctly work out that the overall cost per match was £28.70. There were many variations for the travel prices, with one or both train tickets and one or both bus tickets included and sometimes doubled. Most students knew to add a travel price to the price of a ticket for the game and then to divide £340 by the total travel price. However, it was far more common to see a trial using multiplication rather than a division. Occasionally, students rounded their answer up, but most knew it was appropriate to round down in this situation. Weaker students subtracted a ticket price from £340 and then divided by £21.50. Overall, this part was quite well answered and was a good discriminator.

Part (d) was answered correctly by a significant number of students, but there were more who failed to score. Many of these made no attempt. 24×15 was commonly seen, and not all students showed a complete method. The check was very poorly answered, with a very high number of non-attempts. Those who used a variation of the 4×90 calculation were often successful with a reverse calculation.

Part (e) was not well attempted, and once again there were many who could not access the question and made no attempt. Many worked out that three-quarters of 360 was 270, but it was very common to see students then work out $270 \div 150$ rather than the correct calculation. Students often tried to multiply up to the required value rather than use a division method. Most students remembered to round and give the correct units.

Task 3

There were some very good answers to part (a), and it was quite a good discriminator. For many students, the amount of information to process meant that they failed to make any real progress. There were some very poorly-presented solutions. Many students appeared to estimate the amounts needed. The weakest simply worked out the cost of the items that David already had. Some did not deduct the items he had already bought. When working out the stock cubes, some multiplied by the number of cubes rather than the number of packets and many rounded down the number of packets rather than rounding up. Few worked out the exact costs of the items he needed to buy, with many using a whole number of kilograms for the tomatoes.

Part (b) was challenging, but attempted quite well. Some students did not complete rows or had the same person doing different jobs at the same time. However, many students were able to create an accurate rota for at least one of the first three days.

Part (c) was quite well answered, with 3 the most common wrong answer.

Although there was a significant number of students who gave fully correct solutions in part (d) there were also many non-attempts. Many struggled to cope with the amount of information given in the question. Some students did not include the income from the lunches while others mixed costs and incomes. It was fairly common to see students only working with 2015 or 2016, and some who did use both years either subtracted the total losses or failed to add them.

Task 4

All parts had a high number of non-attempts, possibly due to running out of time.

In part (a), many students worked out that it would take him 1 hour and leave 25 miles, which was often given as 15 or 25 minutes. Those who divided and reached 1.5 sometimes gave this as 1 hour 5 minutes or 1 hour 50 minutes. Occasionally, 1 hour 30 minutes was seen as 1.30 hours.

Part (b) was not well attempted. Those students who knew the correct method usually obtained full marks. It was common to see solutions that involved adding all the times (25) and dividing by the number of rows (5) or occasionally by 21.

Of those students who attempted part (c), the proportion scoring full marks was quite high. Most who attempted the part were able to work out at least one of the calculations correctly. Those who attempted to use three percentages often used 20% for $\frac{2}{5}$. Some tried to work in a cumulative way by subtracting each fraction from the previous result in turn.

Mark Ranges and Award of Grades

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