

# Principal Examiner Feedback

February 2012

Functional Skills Mathematics  
Level 1 (FSM01)

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## **Functionality and Process Skills**

Candidates must ensure that the process of how they come to an answer is clearly shown: in real life there is more than one way to get to an answer and that rarely is it the case that only one way and one answer is acceptable. Candidates should ensure that even though they are using a calculator they show all stages in their working. In a number of questions on every paper, the correct answer only without working may be credited with just one mark, or sometimes none, when the whole question may be worth 4 or even 5 marks: it is here that the process marks are important and working must be shown.

Candidates should be prepared to check that their answers are fit for purpose such as interpreting graphs, devising a time plan, finding a numerical value and giving a data collection form.

In questions that involve comparing possible values to draw a conclusion, those students who took a little time to analyse each situation having separately worked out these values were invariably well rewarded, especially if they came to a conclusion relating to their figures. Breaking down a question into its component parts and coming to a judgment is an important aspect of these processes.

In questions that involve an explanation, candidates must realize that their answer must be supported by mathematics.

## **Introduction**

I am pleased to see that many candidates were well prepared for this examination, with many accessing most questions, performing well, with well formed answers and evidence of good examination preparation. This was clearly demonstrated by most candidates fully completing the paper and managing their time well to achieve some good answers.

### **Question 1**

Most candidates accessed the paper by completing the introductory question. Many were able to add the income from the dental centre on Monday. Where candidates did lose the mark on this question, they did not include the appropriate (£) units. Teachers should always ensure that where units are used, that they are included, as Functional Mathematics papers test the use of units on all papers. Functionally, units are required to ensure that the reader is aware of units and units are required in the "real world" to ensure accuracy and correct understanding of the information being given. From this question, it was evident that some candidates did not have a calculator, with workings out and small mistakes being made. Some of the most successful candidates took a careful approach and even ticked the numbers off as they input them to their calculators.

The second part of the question was answered well, with many understanding the concept of space, position and scale. In a minority of cases, candidates did not fully understand the scale and worked in a 100cm scale, which only lost one mark from the potential two for each item in the question.

Teachers should reinforce to candidates that they should always check the scale before tackling a drawing question. They should be encouraged to use a pencil for drawing questions so that mistakes can easily be remedied. Candidates should also be encouraged to label and lightly shade their drawings, so that it is clear to the examiner what their response is.

### **Question 2**

Many candidates accessed functional question and provided practical responses. The key to answering this type of question is accuracy. Candidates should be encouraged to review where diaries and appointments are used in the work place and through real life situations. Candidates should develop a thorough understanding of how mistakes could lead to double bookings, people turning up at the wrong time etc. to hit home the importance of capturing data in this form accurately. The most successful candidates used an arrow to show clearly to the examiner the start and end time and implied duration of the appointment, as they could see in the entries already completed. Some also shaded the appointment to make the duration very clear. Candidates should consider practically why people ask for appointments to finish before a certain time or ask for appointments that are consecutive to develop an understanding of why these types of constraints may be required within a context.

In a number of cases, candidates inputted the appointments into appropriate slots, but did not include an indication of the start time or end time. Some slots would have fitted perfectly for their appointment, but by not indicating the start and end time, candidates were not providing a functional answer, as this would have allowed for double bookings to take place.

When dealing with constraints, candidates should be encouraged to tick them off and perform a final check on their answer.

### **Question 3**

The majority of candidates answered this question well. A small minority were only able to access the first mark. Candidates answered this question in a variety of very functional forms: some choosing to add the minutes together, then add to the start time; some creating a small time plan and some adding each time to the finish time of the previous stage. A very small number of candidates forgot to work in minutes and hours once they had calculated the process requiring a total of 1 hour and 10 minutes. Some candidates added 45 minutes for the final stage. More practice may be required in dealing with time when it is written in words and expressed as a fraction.

### **Question 4**

Seen less on this paper, but still evident, some candidates are not realising that the context changes within the three sections of the exam: a small minority of candidates continued to refer to the dental centre for this question, where the context had moved to the leisure centre.

Many candidates accessed this question and successfully provided two simple statements. The more advanced candidates reinforced their answers with evidence, or provided a complex statement. Some candidates started to interrogate the data at a micro level by using mathematics to provide statements that focused on two days or the total number of days.

### **Question 5**

Most candidates attempted this question. More practice is required when using two way tables to ensure that candidates produce data tables with efficient and workable input opportunities. Candidates should be encouraged to think about how they would be completing the form themselves and how they would like it to be presented.

A small number of candidates produced a skeleton bar chart to collect the data. This was not fully penalised, as many functional responses were provided; however, candidates should be encouraged to read the question more carefully to ensure that they produce a data collection sheet, as generally graphs are used for displaying data as opposed to collecting data. Teachers should clearly communicate these differences to candidates and through examination practice; it should be made clear to candidates what skill is being tested.

Most candidates performed well on the ratio part of this question. A small number of candidates did not show their working or did not write how much pool water was required, which may have inhibited them from gaining further marks.

### **Question 6**

Candidates performed well at the word formula and accessed the majority of marks on this question. The aspect that let some candidates down was not providing a decision about Simon's goal, which unfortunately lost candidates 1 mark. Teachers should encourage candidates to re-read the question as part of their checking process.

Most candidates successfully calculated 51.1 as their answer to the addition of decimals question; however, this question clearly demonstrated that many did not have a calculator for the examination. Some candidates also chose to round their answer which did not provide a successful response, as accuracy was key to answering this question. Again, some candidates did not clearly communicate a decision, which lost a mark.

Candidates who provided a clearly structured sentence and explanation about Simon's performance were successful. Candidates should be provided with much more opportunity to write sentences to summarise different data sets and/or information, which is a critical functional skill within both the Mathematics and

English Functional Skills Standards at this level. Teachers should ensure that they explain to candidates that rewriting the question will not attract marks and that they need to ensure that their candidates give an explanation.

The graphical representation element of this question was answered very well. Most graphs were labelled, contained an appropriate linear scale and were accurately plotted. It was evident that some candidates did not take rulers in to the exam. Teachers should ensure that all candidates have rulers, calculators, protractors and a pair of compasses for all mathematics examinations, as listed on the front page.

### **Question 7**

Most candidates accessed the percentage question; however, some candidates still do not clearly understand the process to find a percentage, with some candidates subtracting £10 rather than the percentage. Some candidates did not read the question fully and provided 171 as their answer, which did not answer the question, but did imply that they knew the mathematical process.

The most successful candidates chose the most efficient method of answering the solar panel question. Where a question has a number of possible approaches, candidates should evaluate fully the most efficient approach before deciding on a method. Some made a start and showed some calculations, which allowed them to gain some marks. Teachers should remind candidates that where time is involved in a question that they need to work in consistent time units. Some candidates started by adding inconsistent months and years, which provided an incorrect final answer and lost a number of process marks.

### **Question 8**

Most candidates started to attempt the perimeter question: a small number began by finding the area. Teachers should provide candidates with practical activities within context to ensure that a clear distinction is made between perimeter and area. Some candidates, as they were provided with 120 and 90 only calculated half of the perimeter. Teachers should encourage candidates to use any diagrams to show any missing lengths, as this may have reinforced that they did not have the measurements for the whole of the perimeter. Teachers should provide candidates with practical and contextualised opportunities to use shape and space in real life or work contexts. This will allow candidates to feel confident using functional skills in unfamiliar contexts.

### **Question 9**

Many candidates did well and coordinated the tallies. Tallies are introduced at Key Stage 2/Entry 2; however, it is evident that many candidates have forgotten how use them. More practice should be provided to candidates to ensure that they remember how to use tallies, as this is a very functional method of data collection, used often within work and at home.

## Pass mark for FSM01

Maximum mark	48
Pass mark	30
UMS	6

**Note:** Grade boundaries vary from year to year and from subject to subject, depending on the demands of the questions.

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