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Examiners' Report

January 2016

Pearson Edexcel Functional Skills Mathematics Level 2 (FSM02)

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General comments

One of the main problems encountered by some learners was the lack of a calculator; this led to far too many arithmetical mistakes and would have taken the learners far too long to work out some of the answers. Centres should ensure learners are equipped appropriately. In many cases, not nearly enough of the working in the questions was shown.
Sometimes questions requiring a decision or conclusion did not have that final statement. Highlighting important information in the question is a useful aid.
Learners should be encouraged to consider whether their solution is fit for purpose/workable/business-like. They should be questioning whether their answer is sensible. Learners should be taught how to do a check – by doing a reverse calculation, or an alternative method or estimation, all of which are in the specification. A key point for centres to note is that learners should be taught how to evaluate the effectiveness of the check. Evaluating effectiveness is tested on the Sample Assessment materials, which have been sent to all centres.
They must always write money answers with the correct money notation. Indeed, units should always be included in any question requiring them. Perhaps it is worth emphasising that learners should keep reminding themselves that money always has 2 decimal places, no matter what figures the calculator displays. They should also be aware that somewhere on each paper, there will be a mark awarded specifically for correct notation, and they may not always know where on the paper that will be.
Learners have difficulties working with time and need practice in this.
They need basic knowledge of fractions, percentages and decimals.
They need to practise with problem solving - knowing how to read and interpret a question and what relevant information to extract from it.
A significant number need work on the difference between area and perimeter.

Functionality and Process Skills

Learners 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 rarely is it the case that only one way and one answer is acceptable.
They should ensure that even though they are using a calculator, they show all stages of their working.
In a number of questions on every paper, the correct answer only, without working may be credited with just one mark.

Learners should be prepared to check that their answers are fit for purpose, for example, in interpreting graphs.

Section A

Q1) Most learners managed to calculate 6kg will take 240 minutes but failed to find how long 0.7kg will take. Learners need to be shown how to multiply with decimals and practice converting minutes into hours and then work backwards from a certain time. In addition, accuracy in calculating time should be practised a bit more. Most Functional skills papers have questions, which involve time.

Q2a) It was very encouraging to see many learners gain all 3 marks on this question, with the final mark being a check. More did the check by a reverse calculation. There are still however, learners who just repeat the original calculation.

Q2b) Most learners were able to calculate the space taken by the supports but failed to recognise that they only have 5 spaces between the supports which was the main block in this question. Questions like this can be answered effectively if they can sketch the situation and they will be able to see how many spaces there are.

Q3a) Some learners failed to understand the question hence the reason for some incorrect answers. They need to be taught the probability of an event not happening which was the demand for this question.

Q3b) A significant number of learners were unable to apply the square of the radius, instead they multiplied by 2. Then they forgot to divide by 50 after they divided by 1000. Calculation of the discount was also a hindering block. Instead of calculating how much for the number of bags, they just took away 50p.
Substituting and structure of working out and making sure each aspect of the question is applied was key to this question. Reading information from tables was also key here.

Section B

Q4a) This was a relatively straightforward graph question, which was done well by many. The only issue was that the vertical axis was often labelled incorrectly, or not labelled at all. Centres must encourage learners to label each axis with the relevant information.

Q4b) Learners were able to recognise that not all the targets were met in the quarters except for the 3rd quarter. However, they failed to state a more detailed aspect for the second mark.

Q5) Learners using the split method for calculating the percentage mostly lost the marks. There is evidence here for using the multiply by 0.18 method and centres should teach this method accordingly at Level 2. Finding values in the same period (month/year) was also where some learners lost marks. Comprehension and practising on similar questions where they need to compare and make decisions will be useful for learners to gain marks.

Q6a) A significant improvement in calculating ratios was seen, but there was still evidence that learners find this topic difficult, and they just divided by 2 and 3. Those who divided by 5 usually arrived at the correct answer, and when they did, assigned morning and afternoon accordingly. There are many past papers with ratio questions on them, which centres can use for practice.

Q6b) Calculating the mean was really well done on this paper but occasionally the decision making let them down. The check was done well as a reverse calculation in many cases.

Section C

Q7a) Working with area was clearly a problem for the majority of learners.In finding the area of the triangle, the division by 2 was not usually done. A significant number tried to add combinations of the side lengths given, and did not use any multiplication at all. Those that scored marks usually gained the area of the rectangle mark. Learners are not using (or perhaps not looking at) all the information given. A majority did not attempt to deal with the given 750 ml, but just used the basic 16 metres squared as their comparison figure. Working out surface areas as part of classes would benefit learners, as would teaching them the relevant formulae. Very basic formulae are not given at Level 2. More exam questions using surface areas and applications such as spray and tiling would be very beneficial.

Q7b) Finding a fraction of an amount caused difficulties. This is clearly an area, which centres need to focus on. Finding an equivalent fraction by multiplying 5 and 8 by the 2.54 was seen relatively frequently. Rounding caused problems for some, with 1.5 seen as the answer to 5/8 of 2.54 leading to a final answer of 14mm in some cases. Learners were not very good at converting to the same form, with 1.58 and 16mm being seen with no conversion to the same units being seen. Learners are clearly doing the calculation in their head, but ultimately failing to show this conversion.

Q8a) Again, information given is not being read carefully enough. A significant number of learners were multiplying the euros for conversion instead of multiplying the pounds; this is where most lost the marks. Over complication of the calculation was also another error made by learners. They were also making errors such as multiplying each site by 5 for the nights instead finding different combinations within their budget, these learners failed to understand the question properly. They should be taught to underline key words and phrases which may help the comprehension of the question. Practising budget control within constraints should be used more by centres.

Q8b) Very few learners used any form of estimation for this question. Of the majority who attempted it, they just did a reverse check or even repeated an original calculation. Even fewer made any comment for evaluation. Centres should be aware of this type of question, as it is used in the Sample Assessment Materials.

Q9) There were a significant number of learners who did not attempt this question. Of those who did, many did not know what to do with the scale. They usually gained the mark for drawing the square, and sometimes gained the next mark for being further than 3 squares from the fence, but this often looked like luck rather than judgement. Centres should clearly be practising scale drawing questions.

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