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Examiners' Report

October 2017

Pearson Edexcel Functional Skills Mathematics Level 2 (FSM02)

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Introduction

This Level 2 paper included the contexts of managing a commercial centre, a business trip and organising a housewarming dinner. The type of questions in this paper often required the learner to take a more thoughtful approach when interpreting and responding to the questions. On occasion learners needed to combine a range of skills to answer a multistage question and it was pleasing to see that many learners could identify the knowledge and skills required to tackle such questions successfully.

General comments

It has been pleasing to see that learners were able to access this paper, with many attempting most of the questions and only a small number of blank responses being seen.

The majority of learners presented their calculations throughout each question but there were a few instances where these were complete. Learners should be encouraged to read the demand of the question carefully and ensure that they have made a final decision if required and that it is accompanied by accurate figures. Accurate figures also require showing the units they are working with, i.e. cm, £, minutes etc. Some learners failed to gain the checking mark as they either repeated the calculations they had already presented or did not show any check at all. Centres would also do well to encourage learners not to round or truncate figures too early when the question requires multiple calculations to be performed.

Although it was pleasing to see that many more learners had access to calculators than previous examination series, it was evident that a very small number of learners still had difficulty in performing lengthy calculations involving more complex numbers by using a written method. Centres should ensure that all learners have access to calculators so that arithmetic errors are avoidable and therefore does not disadvantage learners.

Learners engaged with a variety of contexts, some which may have been unfamiliar, and responded to tasks well in most cases. Learners should be encouraged to carefully consider the context and practise extracting essential information. Highlighting key data is advisable. They should also develop knowledge on how to show a check of their calculations, especially when explicitly asked to do so.

Areas that learners should particularly improve on include finding a decimal percentage and using scale that is presented in a ratio format.

Section A

Question 1a

The opening question was a straightforward decimal multiplication question to calculate the monthly rent for a commercial centre unit, giving the answer in correct money notation and providing a check of the calculation used by means of a reverse calculation or an alternative method. Pleasingly, the majority of learners achieved either 2 marks or full marks. When marks were lost it was due to not providing a check or not using money notation correctly.

Question 1b

This question involved learners needing to calculate the mean quarterly income for the commercial centre and was also attempted successfully by nearly all learners, with calculations and decisions being presented clearly. On the rare occasion that a learner only achieved 1 mark, the error was usually due to not making a decision to accompany their accurate figures. Learners should ensure that they check the demand in the question and provide a decision when asked if someone is correct, as was the case in this question.

Question 2a

This question tested the ability to design an efficient two-way table to collect data. Some learners created separate tables which is not efficient as more than a single tick or tally would be required. Learners should practise creating two-way tables and testing if it is efficient by checking if all data has been covered by headings and whether each cell or figure represents 3 pieces of information. In this question, an efficient data collection sheet would have cells that would represent the size of the unit rented, the number of months the rental was for and how the customer rated the service. More care should also be taken when writing heading to guarantee that each data category had all subcategories as outlined in the question.

Question 2b

This formula question to calculate the yearly rental rate for large units and required learners to use the information given in the table to find the total number of months that large units were rented for by multiplying the number of units by the length of the rental, given as 3, 6 or 9 months. Many learners found this question more challenging and were awarded 1 of the 3 marks available by engaging partially with the formula but only the more able learners were able to engage successfully.

Question 3

The final question in this section was a multistage compound area question combined with a metric to imperial conversion. The majority of learners were able to find a missing dimension and use this to calculate either the full area or a partial area. Most were then able to use the conversion factor correctly to find accurate figures to help them reach a correct decision. Many learners achieved at least 3 of the 5 marks available or more. There were very few instances, compared to previous series, of learners using perimeter rather than area or dividing by the conversion factor rather than multiplying, which was very pleasing to note.

Section B

Question 4

The second section opened with another multistage question which combined using exchange rates and calculating a percentage increase alongside working with costs for purchasing and installing software. Learners engaged well with this question with many gaining 3 or more marks of the 5 available. When learners did not achieve full marks, it was often due to being unable to correctly calculate 3.85% and add it to their costs and learners would do well to practise being able to calculate decimal percentage values. However, it was pleasing to note that the majority of learners were able to use an exchange rate correctly compared to previous series.

Question 5

This question requiring learners to subtract decimals, round to a whole number and use this to calculate the cost of excess luggage was tackled well by many learners but when marks were lost it was due to not reading the question carefully enough to note the need to round before performing the final calculation. Learners should be encouraged to read the question multiple times and highlight any key information or words, particularly when specific words are in bold font as was the case in this question.

Question 6a

The majority of learners engaged successfully with using a timetable with added constraints in this question very well, with many being awarded full marks. Reading the question carefully to check that all constraints were considered fully would have led to a mark not being lost. The most common error was to not consider the cheapest tickets available for the given time constraints.

Question 6a

The final question in this section required learners to use knowledge of metric unit equivalencies and finding an optimum solution. Pleasingly, most learners were able to find one or more combinations of bottles of oil given in ml to total the 2.5 litres required but very few were able to find the optimum solution for this problem. A check was required for this question but very few performed a check of their calculations, with many of those who made an attempt simply showing a repeated calculation.

Section C

Question 7

The opening question in the final section required learners to interpret scale given in a ratio format and apply this to a diagram in which a table and space for chairs had been drawn as a plan. A mark was often gained for beginning to consider the possible length of the table and relating this to the scale to start to find a solution but many learners then used the number of squares counted rather than a measurement to continue their calculations. A small number of learners identified that they needed to measure the diagram and combine this with the scale provided which gained them 2 of the 4 marks available but only considered the extra space needed once in relation to the diameter. Only the more able correctly calculated the greatest diameter possible for the table that would also allow for the space needed for the chairs.

Question 8a

It was pleasing to see that the majority of learners engaged very well, with many gaining full marks, with this time calculation question and considered each stage of the preparation and cooking time for the lamb. When marks were lost it was usually due to incorrectly calculating the time needed for roasting by either including the extra 15 minutes for each pound of lamb or omitting it completely from the calculation. Such learners were then able to continue correctly to gain credit for demonstrating their ability to use their times to find the time they believed the lamb would be ready to serve.

Question 8b

The majority of learners were awarded full marks on this proportion question. Learners confidently worked with a recipe serving 11 people to calculate whether they had enough of one ingredient to follow the recipe to cater for 8 people. On the rare occasion that a mark was lost it was generally due to making an incorrect decision or no decision at all.

Question 9a

The final question of the paper required learners to identify a suitable vase, based on measurements and cost to fit inside a cabinet and perform a fractional discount to find the cost for their chosen vase. Learners responded very well to this question, with many correctly calculating the fractional discount accurately. The most common error was to focus on choosing the cheapest vase listed and not considering whether the choice was appropriately sized for the cabinet.

Question 9b

This part of the question required learners to evaluate their choice in a functional context. It was very pleasing to see that most learners were able to perform the evaluative check on this paper and explain that the height of the vase may place restrictions on the space left for the height of flowers placed in the vase and conclude that it therefore may not be entirely suitable.

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