Examiners' Report

November 2017

Pearson Edexcel Functional Skills Mathematics Level 1 (FSM01)

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Introduction
This Level 1 paper included a variety of questions based on the contexts of attending a catering college, a holiday in Pula and buying a hot tub. Some of the questions required interpreting diagrams and tables and it was pleasing to see that the majority of learners were able to interpret and engage with these well.

General comments
It has been pleasing to see that the majority of learners engaged with all questions, with a significantly smaller number of blank responses compared to previous examination series. This implies that learners were relatively well prepared to sit this Level 1 paper.

The majority of learners presented their calculations throughout each question but there were a few instances where these were not clearly organised or were missing completely. This led to some learners missing out on process marks. Learners should be encouraged to present all of their calculations, however simple, in a clear and organised way. At times, it was evident that learners did not have access to calculators and so arithmetical errors were often seen. Centres should ensure that learners have access to calculators and other equipment necessary to complete the paper. It is also critical that learners state their decision clearly (Yes or No usually suffice) as a mark in the majority of questions is awarded for a correct conclusion that is accompanied by accurate figures. Accurate figures also require learners to include the units they are working with, i.e. cm, £, minutes etc.

Learners engaged with a variety of contexts and responded to tasks well in most cases. However, there were some instances where learners did not use all of the information provided in the question or misinterpreted the results of their calculations and their final answer was incorrect. Learners should be encouraged to read the information carefully and ensure that they check each element has been used after performing calculations, usually by ticking off. Practising the extraction of essential information (highlighting key data is advisable) and focussing on what the demand asks for when making a final decision would also increase success for some learners. 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 calculating a percentage of an amount and being able to recall methods for calculating area and perimeter.

Section A

Question 1a
The opening question required learners to choose a suitable calculation to compare an amount of money available to a suggested daily lunch allowance. A variety of methods were used, with the majority of learners opting to use a multiplication method. Pleasingly, most achieved full marks, showing calculations and a decision clearly. When marks were lost it was often due to using an incorrect number of days, choosing to use 7 days of a week rather than the 5 implied by Monday to Friday as stated in the question.

Question 1b
Most learners were awarded at least 2 of the 4 marks available in this question involving the use of a timetable and calculating with time. Learners commonly gained credit for recognising that three quarters of an hour was 45 minutes and starting to perform a time calculation to find figures to compare. Some learners also made correct use of the timetable and selected a suitable departure time. Careful reading and interpretation of the demand was required as the most common error made was to make an incorrect decision and disregarding the requirement to compare a calculated time to the latest time that Mick could wake up to ensure that he could arrive at college on time given the constraints.

Question 2
This question required learners to work with averages and complete a check. The majority of learners completed it successfully, with many choosing to calculate the mean and arriving at the correct conclusion based on their accurate figures. A small number of learners chose to use a differences method but were unable to complete the method successfully. Learners should be encouraged to calculate the mean when working with averages at Level 1. It was pleasing to see that the majority of learners performed a suitable check, with only a few omitting the check or repeating their initial calculations.

Question 3a
Learners responded very well to this proportionality question set in a familiar context and were able to gain full marks for scaling up the number of eggs required for 80 people when told how many people a quiche served and how many eggs were needed to make a single quiche. Calculations and decisions were structured and presented clearly. When marks were occasionally lost, the most common reason was for either not making a decision or simply multiplying the figures given in the question and not using a method to work with proportion.

Question 3b
It was pleasing to note that many learners responded very well to this designing a data collection sheet question compared to previous series, with many gaining full marks and very few losing a mark due to inefficiency of their table. However, some learners had completed the questionnaire given in the stem instead of designing a data collection sheet. Learners should be encouraged to use given information as a prompt, particularly for this style of question.

Section B
Question 4
The majority of learners were able to engage fully with this planning a route and calculating accurately with decimals question and were able to gain full marks. Reading all of the information given in the question was vital to success in this question. Learners should be encouraged to use a method such as ticking off or crossing out to check that they have engaged with each relevant point as the most common loss of marks was due to not including the distance for the walk around the old town in their calculations despite stating it as part of the route. A few also lost marks for not engaging with the constraint about starting and finishing at the hotel.

Question 5a
Drawing a graph appeared to be a strength for the majority of learners, with many able to produce an accurately plotted suitable graph, complete with appropriate labels, thus gaining full marks. When a mark was lost it was often due to insufficient labelling of the y-axis and learners should be encouraged to look at their graph and consider whether the graph can be interpreted without any prior knowledge of the data set it is representing.

Question 5b
This question required learners to work with a fraction of an amount to find figures to compare, with many opting to divide by 3 to find a third. A very small minority either divided by a third, arriving at a value much larger in magnitude, or using 0.3 in place of the correct decimal equivalent for a third. This equivalency should be visited often to reduce the confusion and misconception that many learners demonstrate. A check was also required, with many performing a reverse calculation correctly, particularly if the initial calculation involved dividing by 3.

Question 6a
The majority of learners carefully interpreted the table provided to select a hotel meeting all of the requirements of Winston and Karen and gained the mark available. Eliminating hotels by crossing out in the table when considering each constraint as it is dealt with would be an advantage in this question as the most common error was to disregard one of the three constraints.

Question 6b
Calculating a percentage of an amount was performed well by many learners in this question. The most successful approach was to divide by 100 and multiply by 15, leading to the learner gaining full marks for an accurate answer. Learners choosing to use a scaling method were not always successful as they often used a repeated halving approach and found 12.5%. Another common error was to divide by 15 the multiply by 100 and so learners should be reminded that percentage means out of 100

Question 7
Many learners gained full marks for working with a worded rule correctly in this final question of the second section.
Carefully reading this question would have ensured that learners did not lose marks for substituting the price in pounds rather than the price in Croatian Kuna to arrive at a final answer.

Section C

Question 8
The final section started with a multi-stage question which required learners to calculate a percentage and work with a payment plan over 2 years. Many learners engaged correctly to find the difference in price between the payment plan and the payment in full value and so gained full marks. A mark was often lost for not calculating the difference in values or for not presenting the value with correct money notation. Learners should be encouraged to include units with any answer. A few learners were able to achieve 2 of the 5 marks available for working functionally with the payment plan, losing the other marks due to dividing by 20 when trying to calculate 20%.

Question 9a
This question proved to be very successful, with the majority of learners gaining full marks for working with scale and constraints with this geometrical drawing question. Many learners demonstrated that they were confidently able to work with a given scale but occasionally a constraint was overlooked, leading to a mark being lost.

Question 9b
Only the more able learners were able to gain full marks in this comparison question involving perimeter and a unit conversion. Most learners were able to calculate the total length of fencing available, with some also able to work with consistent units of length. The most common error was to confuse the calculation needed to calculate the perimeter and instead calculating the area. Centres need to continue to reinforce the difference to learners.

Question 9c
Learners responded very well to this question requiring the time taken to fill the hot tub, with many correct answers seen. Many learners successfully demonstrated that they could convert 75 minutes into hours and minutes even though they were not required to do so. A check of calculations was also required but many learners omitted a valid check, repeating their initial calculation rather than a reverse process.

Question 10
The majority of learners gained the mark for correctly reading a negative value from a thermometer, with very few instances of an incorrect value being given as an answer. It was pleasing to see that learners used the diagram to help them, with many labelling the intervals on the thermometer. Learners should continue to be encouraged to make use of diagrams where possible.