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3748-120 (Evolve) and 3748-320 (Paper)

Functional Skills Mathematics Level 2

Chief Examiners' report – January 2017

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1 Introduction

The purpose of this document is to provide centres with feedback on the performance of candidates for 3748-120 and 3748-320 Functional Skills Mathematics Level 2.

This report covers the period from September 2016 to December 2016. However, centres are strongly urged to review the previous Chief Examiner's report, dated September 2016, as the comments and advice still apply.

The Chief Examiners' Report has been reintroduced as a result of feedback from centres, to give them guidance in preparing candidates for examination.

2 Overall Performance

2.1 Areas of good performance

Candidates have now been sitting the remodelled papers for over a year following the relaunch required in October 2015. The changes in assessment content and format for Level 2 were significant, but it is apparent that more candidates are better prepared now than was the case immediately following the changes. The assessment format for Level 2 was further remodelled from November 2016. Task 1 is more structured and planning is no longer assessed, but reviewing is retained. Candidates are not be required to draw scale diagrams, although they are expected to read from given scale plans and diagrams.

Better prepared candidates are coping well the review section of Task 1, and candidates are generally finding the more structured nature of the task easier to deal with. Solutions to the problems set in Task 1 have been noticeably more comprehensive and sensible.

Most candidates cope with the calculation requirements and understand the principles of basic operations (addition, subtraction, multiplication and division) and can deal with fractions, decimals, percentages, ratios/proportion and scaling within task contexts.

Statistical problems have been dealt with competently by most candidates who can generally, at least, calculate averages and ranges accurately. Probability has been calculated and understood by a large number of candidates and more candidates have demonstrated their understanding of trend lines presented graphically.

Basic checking of calculations has been well demonstrated by most candidates. Explanations of what results mean in the context of tasks is improving. Presentations of results using summary tables, charts and graphs is generally good.

2.2 Areas for development

Although many candidates have been well prepared for the changes in assessment format, script marking shows that a significant number still seem to be unaware of some or all of the detail required. There have been a significant number of candidates who seem to be unprepared for, or simply unable to cope with, the demands of the Level 2 papers, particularly the need to select information / data, but also the practical use of scaling, ratio and proportion.

Task 1 Review. The last part of Task 1 requires candidates to reflect upon and evaluate the way they have tackled the task. Many candidates appear to have ignored the initial instruction: 'You need to review **how well you did** the Task' and simply read the final line: 'List three important points', thereby simply reporting stages of the calculation process. Others use generic phrases, eg 'I checked my calculations' without making specific references to the actual work they have done in the context of the task requirements. Candidates will gain the marks allocated for this section by making specific reference to something they have done in working through the task and relating this to one or more of the categories listed, ie

- any other information that would have informed a fuller answer
- how sensible the answers were
- how well the methods worked
- anything they found difficult
- things they might do differently if they had to tackle a similar problem.

Introduction and source material. In order to tackle tasks, candidates must access the instructions given in the introduction and select relevant data from the source material. A number of candidates appeared to neglect to read the detail of the requirements of each task and its overall purpose, and some clearly failed to access all required source material, especially in online versions where candidates failed to scroll down sufficiently to find data. Generally candidates should approach each task as a whole with the view that earlier parts of a task may inform later parts.

Some candidates find the interpretation of travel timetables particularly difficult to understand.

Units. Misunderstanding units, particularly relating to linear dimensions (mm, cm, m and km) and those of time, prevents some candidates from successfully completing their search for information needed to complete a task. Many candidates do not show units either in their answers or workings. Although a candidate will not be repeatedly penalised for this, the absence of units can lead to confusion for the candidate as their answer develops, eg when dealing with scale plans. Many candidates ignore the need to make use of the £ sign and some give answers in incorrect money format, eg an answer of £107.30 written as £107.3 will be penalised.

Checking. Some candidates are still not attempting to show checks. The marks available for these steps could make the difference between a pass mark and a fail grade. Checking calculations requires candidates to use a different method from the original calculation, usually reverse calculations or approximation. Candidates must show the original calculation in their working. Some **Task 2** checking relates to the interpretation of a scale plan. Candidates should be able to explain their use of scale by relating the scale used to the actual and scaled length on a diagram. Some candidates lose marks by missing either reference to the scale or reference to the scaled length.

Calculations. The following are examples of calculations* that are not understood by a number of candidates:

- percentages
- fractions
- ratio
- time, particularly addition of time and the understanding that decimal fractions of hours do not equate to minutes
- calculation of L-shaped areas
- calculation of volume
- conversions within the same system
- conversions of imperial to metric
- scaling up
- scaling down
- calculation of different averages and which average is most suitable
- calculation of probability
- understanding indices, eg $(1.25)^2 = 1.5625$ not 2.5
- formulae and the need to understand the correct sequence of operators (ie to apply BODMAS rules)

*More detailed information for calculation requirements may be found in the Guidance for Delivery of Functional Mathematics on the Walled Garden website.

Presentation of results. Many candidates who demonstrate their ability to calculate accurately to find solutions for the tasks find some difficulty in summarising and explaining their results in the context of the task. Explanations generally need to be no more than simple statements relating to what a candidate's results show. On some occasions, a comparison of two values will explain findings and candidates should be taught to use words that indicate comparison, eg 'the highest average'.

In particular, many candidates do not understand what range values show in terms of the variation / consistency of data.

Most tasks require some graphical support for, and/or summary of results. Although most candidates produce good presentations, a number of candidates lose marks for the following reasons:

Tables

- inadequate / no headings
- poor layout
- data inconsistent with results

A few candidates still draw charts or graphs (for which they will be penalised) instead of the required table.

Charts / graphs

- fail to label axes, particularly the vertical axis
- do not construct a continuous linear scale on the vertical axis
- fail to start the vertical scale at zero (bar chart only)
- do not draw bar heights, plots or sectors accurately

Trend lines

- generally a straight line drawn between graph plots with approximately the same number of plots either side of the line will suffice

A few candidates join each plot together.

General

- paper based presentations are more likely to be accurate if candidates use a ruler
- online (E-volve) candidates should practise the use of the presentation tools available

3 Recommendations/Advice for centres

Centres should use the Guidance for Delivery of Functional Mathematics (City and Guilds Walled Garden website) in order to support teaching and learning. This Guidance provides information and examples of what is expected from Level 2 candidates.

Centres should carefully consider whether a candidate is operating at an appropriate level for entry at Level 2. Unfortunately there have been a small number of candidates who were clearly not anywhere near the standard required, eg, unable to work out one third of a given value.

There are two platforms, paper based and online, available for this assessment. Centres should ensure that an appropriate choice of platform is made for candidates based on each candidate's need and preference.

Centres should advise candidates about appropriate 'exam technique' particularly with regard to attempting Tasks in order. Candidates may attempt Tasks in any order and it may be to a candidate's advantage to start with Task 2 or 3 rather than Task 1.

Candidates who choose to access assessments online need to be prepared not only in terms of the prescribed Functional Skills Standards, but also in terms of using the E-volve platform. They must be well practised in the use of the presentation tools (tables, diagrams, charts and graphs) but also understand how to insert sufficient text, eg to show calculations and working, so that potential compensation marks, in the event of incorrect answers, are accessible.

The importance of showing working in paper based assessment should be stressed for the same reason.

4 Additional Information

Centres should be aware that pass marks may vary from paper to paper as a result of an awarding process undertaken by City & Guilds. Any difference in pass marks reflects the perceived and actual difference in demand of the exam papers, including the source materials and the questions themselves. Therefore, it is possible that two candidates with the same score may have different overall results (pass or fail) if they sat different papers.

The indicative pass mark ranges can be found in the Functional Skills Mathematics Specification, which can be found on the City & Guilds website.