

3748-119 (Evolve) and 3748-319 (Paper)
Functional Skills Mathematics Level 1
Chief Examiner's report – January 2018

About City & Guilds

As the UK's leading vocational education organisation, City & Guilds is leading the talent revolution by inspiring people to unlock their potential and develop their skills. City & Guilds is recognised and respected by employers across the world as a sign of quality and exceptional training.

City & Guilds Group

The City & Guilds Group operates from three major hubs: London (servicing Europe, the Caribbean and Americas), Johannesburg (servicing Africa), and Singapore (servicing Asia, Australia and New Zealand). The Group also includes the Institute of Leadership & Management (management and leadership qualifications), City & Guilds Licence to Practice (land-based qualifications) and Learning Assistant (an online e-portfolio).

Copyright

The content of this document is, unless otherwise indicated, © The City and Guilds of London Institute and may not be copied, reproduced or distributed without prior written consent. However, approved City & Guilds centres and candidates studying for City & Guilds qualifications may photocopy this document free of charge and/or include a PDF version of it on centre intranets on the following conditions:

centre staff may copy the material only for the purpose of teaching candidates working towards a City & Guilds qualification, or for internal administration purposes

candidates may copy the material only for their own use when working towards a City & Guilds qualification

The Standard Copying Conditions (see the City & Guilds website) also apply.

City & Guilds

1 Giltspur Street

London EC1A 9DD

www.cityandguilds.com

Contents

1	Introduction	2
2	Overall Performance	2
3	Recommendations/Advice for centres	7
4	Additional Information	7

1 Introduction

The purpose of this document is to provide centres with feedback on the performance of candidates for 3748-119 and 3748-319 Functional Skills Mathematics Level 1.

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

2 Overall Performance

This report covers the period from March 2017 to January 2018. The patterns of candidate responses (and difficulties experienced) are similar to those encountered in previous assessment tests and reported previously.

2.1 Areas of good performance

A large number of candidates cope very well with the assessment formats, both paper based and online versions, producing well worked solutions to the problems set.

Well prepared candidates cope with 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. Many candidates have demonstrated good skills in producing scale plans both on paper and using the online diagram creator. The use of the diagram creator by candidates who have produced diagrams using this tool, suggests that many have been both encouraged to practise drawing and have been well instructed in its application.

Basic statistical calculations (mean and range) have been dealt with competently by most candidates and graphical presentations (bar charts particularly) are generally well executed.

Checking of calculations has been well demonstrated by most candidates. Explanations of what results mean in the context of tasks is slowly improving.

2.2 Areas for development

Although many candidates have been well prepared for the assessment, script marking still shows that some candidates are unprepared for, or simply unable to cope with, the demands of the Level 1 papers. The need to prepare candidates for a problem solving approach involving not only calculation but also the selection of relevant data and the presentation and explanation of results, cannot be overemphasised.

Candidates are expected to show their working in order to be eligible for compensation marks in cases where they have not achieved a fully correct answer. This has been a particularly important issue for some online candidates who are clearly doing their working out on paper and neglecting to transfer some or all of their working to the online script. There is a menu bar online to assist this process where there is a clear instruction to show working. A few online candidates have missed parts of sections by failing to scroll down sufficiently and some seem unaware of the need to access source material. Some candidates do not appear to have had

sufficient practice in using the diagram or chart tools and have therefore lost a significant number of marks.

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.

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 ignore the need to make use of the £ sign and some give answers in incorrect money format, eg an answer £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 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, eg 1cm (square) = 5m, so 5cm (squares) = 25m is one acceptable way of fulfilling this requirement. 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: **eg** recognition of 20 out of 50 (customers) is 40%
eg recognition that 30% is the same as $\frac{3}{10}$
- fractions: **eg** calculation of one fifth as a price reduction
NB one third is not 30%, nor 0.3
- ratio: **eg** use of ratio 1 : 2 to make increase the length of sides of a figure
- time: **eg** recognition that 38.5 hours is 38 hours 30 minutes
- time: **eg** additions of hours and minutes
- weight conversions **eg** $1.25\text{kg} = 1250\text{g}$
- calculation of area **eg** of rectangle $5\text{m} \times 7\text{m} = 35\text{m}^2$
- scaling down **eg** use of 1cm represents 1m
- linear conversion **eg** recognition that $10\text{mm} = 1\text{cm}$, $1000\text{m} = 1\text{km}$

Candidates generally calculate means and range accurately. A few confuse range with the mean or another type of average.

* More detailed information for calculation requirements may be found in the Guidance for Delivery of Functional Maths on the 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'.

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:

Candidates lose marks for the following reasons:

- 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.

Scale diagrams:

- misunderstanding of scale
- failure to label items.

Charts / graphs:

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

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.

Section 1 Number focus

Section 1 tasks frequently involve money and/or time. Candidates are expected to extract information from text and a variety of other formats including tables, timetables, invoices and receipts. Some candidates find particular difficulty interpreting timetables. It is important that candidates also read the text content of questions carefully (eg in a recent paper, many candidates chose items to buy at random rather than from the shopping list given to them as source material).

Typically Task 1 problems conclude with a question that gives some guidance (in bulleted format) to candidates as to the headings required for a table of results. Candidates should understand that the purpose of a presentation table is to provide a suitable summary of results. It should therefore be systematically constructed with appropriate headings and delineated in a logical format.

Section 2 Shape, space and measures focus

Typically questions focus on scale and candidates need to be familiar with both reading measurements from scale diagrams and constructing simple diagrams and plans to scale. Some further developments of the contexts typically involve calculation of areas or volumes or the application of ratio.

Some online candidates struggle with the diagram creator tool and they should be enabled to practise its application (eg copy and paste functions, use of rectangle shapes and text boxes for labels).

Section 3 Statistics focus

Candidates are expected to extract information from tables of data with additional information shown in various text formats. They are expected to calculate means and ranges, but are not expected to use other averages. When calculating means, some candidates make calculation errors by misreading the number of items, eg by ignoring zero values or making assumptions about times, and therefore dividing incorrectly. A few candidates confuse the calculation of means and/or range with other averages, eg with median or mode, neither of which are required at Level 1.

Explanations of results need attention. In particular, many candidates do not understand what range values show in terms of the variation / consistency of the original data. Candidates should expect to make simple comparisons of results and be able to relate results to the context of the task.

Bar charts are generally well produced, although some online candidates struggle with the chart maker tool. Online candidates need to be familiar with the idea that the scale works best by setting the maximum at 10, 50 or 100 (or multiples thereof) and they are best advised to avoid using the 3-D application. They also need to be aware that the vertical axis can be numbered automatically (many candidates have been using exam time unproductively by creating text boxes for this purpose). Candidates also need to be able to construct simple line graphs and pie charts. When a pie chart is required, a circular outline will be provided.

3 Recommendations/Advice for centres

Centres should use the Guidance for Delivery of Functional Maths (City and Guilds website) in order to support teaching and learning. This Guidance provides information and examples of what is expected from Level 1 candidates.

Centres should carefully consider whether a candidate is operating at an appropriate level for entry at Level 1. Unfortunately there have been a small number of candidates who were clearly not anywhere near the standard required (eg in a recent paper, a

large number of candidates failed to give a correct answer to a question requiring the division of 40 by 5).

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. A few online candidates have actually indicated on their scripts that their preference for working on paper has been ignored by centres.

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 the assessment 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 have taken different versions of papers.

Centres should note that drawing scaled diagrams is still required on both assessment platforms at Level 1.