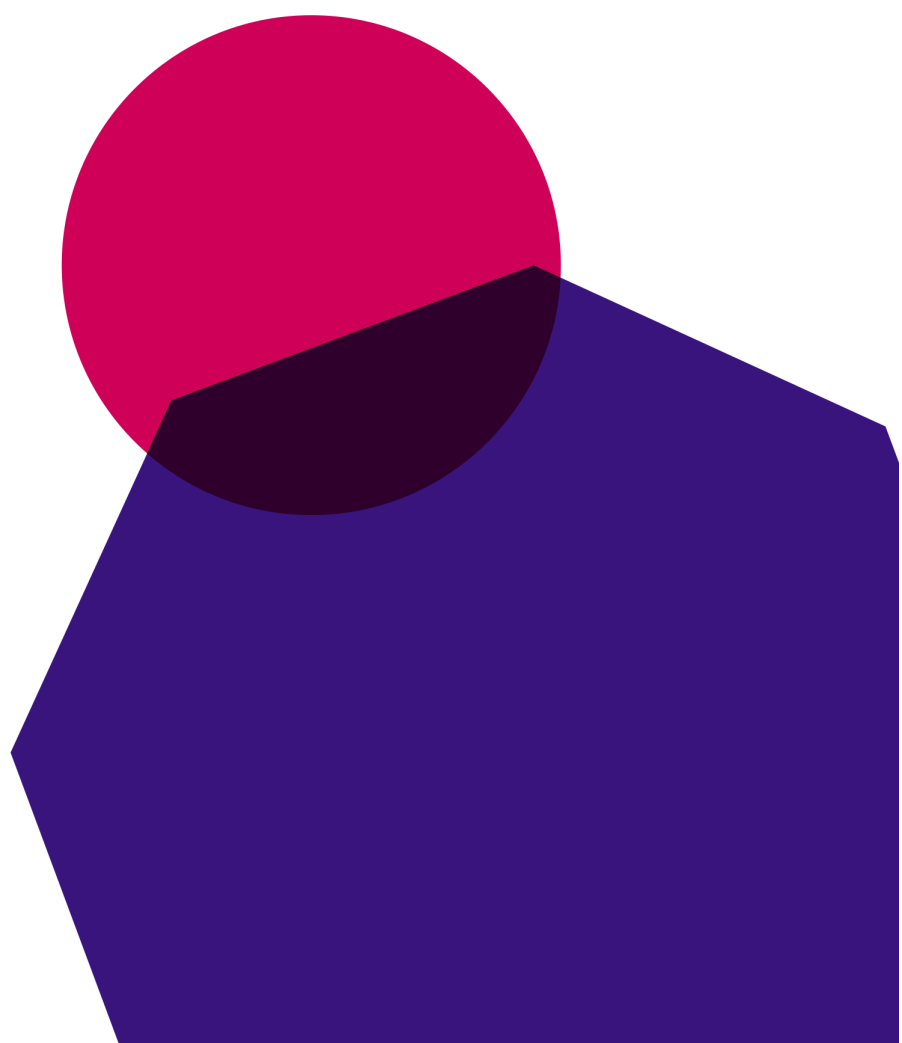


4748-04 City & Guilds Level 1 and 2 Functional Skills Mathematics

Qualification Handbook

January 2022
Version 1.1



Document change history

Changes to the document are listed below.

Date	Version	Page	Section	Change
Sept 19	1.0	9	Resource Requirements	Information added to clarify requirements for centre staff taking City & Guilds qualifications.
Sept 19	1.0	10	Examination administration	Information updated on ensuring candidates do not see the same paper twice.
Sept 19	1.0	15	Permitted/prohibited equipment	Clarification on the types of calculators permitted.
Sept 19	1.0	16	Permitted/prohibited equipment	Addition of dictionaries and bilingual dictionaries to permitted/prohibited equipment table.
Sept 19	1.0	23	Performance feedback	Content updated.
Jan 22	1.1	8	Approval Resource requirements Appendix 1	Updated references/hyperlinks to the new C&G Quality Assurance Standards documents.
Jan 22	1.1	15,16	Permitted/prohibited equipment	Updated guidance on calculators – candidates may now use their own calculator in the e-volve onscreen examinations.
Jan 22	1.1	N/a	All	Hyperlinks updated throughout.

Qualifications at a glance

Industry area	Skills for Work and Life
City & Guilds number	4748-04
Age group approved	All ages
Entry requirements	None
Assessment	100% externally set and marked by City & Guilds.
TQT	GLH 55 hours L1 TQT 61 hours L2 TQT 66 hours
Grading	Pass/fail
Approvals	Centres currently approved to deliver the 3748 suite of Functional Skills qualifications may apply for fast-track approval on the 4748. Centres that do not have approval for 3748 should apply for the 4748 qualifications via a Qualification Approval Application (QAP). Please note all centres must complete a self-assessment form and assessment site log.
Registration and certification	Consult the Walled Garden/Online Catalogue for more information (www.walled-garden.com)

Title and level	Size (GLH)	TQT	City & Guilds number	Qualification number
City & Guilds Functional Skills Qualification in Mathematics at Level 1	55	61	4748-04	603/4648/6
City & Guilds Functional Skills Qualification in Mathematics at Level 2	55	66	4748-04	603/4649/8

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1 Introduction

What are the qualifications about?

These qualifications have been designed to meet the content, conditions and requirements set out by the Department for Education (DfE) and Ofqual in the following publications,

- Subject content for functional skills: Mathematics, Ref: DFE-00046-2018
- Functional Skills Mathematics Conditions and Requirements (Ofqual)
- Functional Skills Mathematics Guidance (Ofqual)

This handbook **must** be read in conjunction with the document **Functional Skills 4748 Mathematics and English Level 1 and 2: Instructions for conducting examinations**.

Area	Description
Who are the qualifications for?	These qualifications are for learners of all ages. They are suitable for adults and young people across a wide range of settings, including those on apprenticeships. Note these qualifications are only available to centres and learners in England.
What do the qualifications cover?	<p>These qualifications are designed to recognise the achievement of underpinning skills, problem solving and decision making at Level 1 and Level 2 in Mathematics.</p> <p>Studying Functional Skills qualifications in Mathematics at Level 1 and 2 will help learners to gain confidence and fluency in, and a positive attitude towards, mathematics. The qualifications cover three content areas:</p> <ul style="list-style-type: none">• Using numbers and the number system• Using common measures, shape and space• Handling data and information <p>Learners will be able to demonstrate their confidence in using mathematics when they can demonstrate a sound grasp of mathematical knowledge and skills and apply this to solve straightforward mathematical problems.</p>
What opportunities for progression are there?	<p>Learners who achieve the qualification at Level 1 may progress to Functional Skills Mathematics at Level 2 or may go on to study other qualifications in mathematics.</p> <p>The Level 2 qualification should provide a foundation for progression into employment or further technical education and develop skills for everyday life. In some contexts, Functional Skills qualifications will also play a part in the Government's accountability systems.</p>
Who did we develop the qualifications with?	These qualifications have been developed in collaboration with employers, training providers, teachers and a range of subject matter experts.

Qualification purpose

These are qualifications for work, study and life. Achievement of these qualifications demonstrates a sound grasp of mathematical skills at the appropriate level and the ability to apply mathematical thinking effectively to solve problems successfully in the workplace and in other real-life situations.

Qualification structure

The table below shows the qualification structure and component numbers for each level:

Qualification title	Component number	Component title
City & Guilds Functional Skills Qualification in Mathematics at Level 1	4748-219 (paper) <i>or</i> 4748-119 (e-volve)	Functional Mathematics at Level 1
City & Guilds Functional Skills Qualification in Mathematics at Level 2	4748-220 (paper) <i>or</i> 4748-120 (e-volve)	Functional Mathematics at Level 2

Learner entry requirements

There are no entry requirements for these qualifications and no formal age restrictions.

Requirements for certification

The qualifications at Level 1 and Level 2 are 100% externally assessed. There is one summative assessment at each level. Candidates who meet the criteria to be awarded a Pass will receive a qualification certificate.

Total Qualification Time

Total Qualification Time (TQT) is the total amount of time, in hours, expected to be spent by a Learner to achieve a qualification. It includes guided learning hours (which are listed separately) and hours spent in preparation, study and assessment.

	GLH	TQT
Functional Skills qualification in Mathematics at Level 1	55	61
Functional Skills qualification in Mathematics at Level 2	55	66

Support materials

The following resources will be available for these qualifications:

Description	How to access
Sample assessments, delivery guides and assessment preparation materials	4748 Functional Skills qualifications webpage

City & Guilds also offers a substantial range of teaching and learning resources to support the development of mathematics in all settings. For further information about these resources, please see [cityandguilds.com/mathsandenglish](https://www.cityandguilds.com/mathsandenglish).

2 Centre requirements

Approval

To offer these qualifications, new centres will need to gain both centre and qualification approval. Please refer to the document **Quality Assurance Standards: Centre Approval Process** for further information.

Resource requirements

Centre staffing

Staff involved in the teaching of these qualifications **must**:

- be personally competent in the subject being taught
- have a detailed understanding of the qualification specifications and assessment requirements
- be familiar with the guidance in the **Quality Assurance Standards: Centre Handbook**.

As stated in the **Quality Assurance Standards: Centre Handbook**, centre staff cannot undertake a City & Guilds qualification while they are teaching or assessing that qualification.

Centres must inform the Quality Delivery Teams if they wish to register a member of staff to take a Functional Skills mathematics qualification. This **must** be done before they complete any assessments. Failure to notify City & Guilds could affect the Qualification Approval Risk status and/or may constitute malpractice.

Teaching qualifications and subject specialist qualifications

There is no requirement to hold any specific teaching or subject specialist qualification in order to be involved in the teaching of Functional Skills Mathematics Levels 1 and 2. Nevertheless, staff involved in any of these functions must be secure in their personal numeracy skills and **fully** able to understand the qualification requirements. We therefore strongly recommend that centre staff work towards an appropriate subject specialist qualification if they do not already hold one.

Continuing professional development (CPD)

Centres are expected to support their staff in ensuring that their knowledge and practice remains current. This includes currency within mathematics education and best practice in delivery, mentoring, training, assessment and quality assurance. Centres should also take account of any national, international policy and legislative developments.

Support for centres

City & Guilds supports centres in the delivery of Level 1 and 2 Functional Skills Mathematics. Further support is provided in the form of teaching and learning materials such as SmartScreen and e-Functional Skills. City & Guilds also runs network events to provide ongoing support to centre staff.

External assessment

To meet the assessment conduct requirements for these qualifications, the centre must ensure that each of the following roles are undertaken:

- Head of Centre
- Exams officer
- Invigilator(s).

These roles and all other information relating to the administration and invigilation of examinations are included in the document **Functional Skills 4748 Mathematics and English Level 1 and 2: Instructions for conducting examinations**.

3 Delivering the qualifications

Initial assessment and induction

An initial assessment of each learner should be made before the start of their programme to ensure they work towards the qualification at the appropriate level.

This process should identify if the learner has any specific learning needs and any support and guidance they may need when working towards their qualification.

We recommend that centres provide an induction programme, so learners fully understand the requirements of the qualification they are working towards, their responsibilities as a learner, and the responsibilities of the centre.

Delivery strategies

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualification(s) before designing a course programme.

Centres should design course programmes in a way that:

- best meets the needs and capabilities of their learners
- satisfies the requirements of the qualification(s).

Tutors should recognise and emphasise the interconnectedness of the three different subject areas of mathematics set out in the subject content, namely number and the number system; common measures, shape and space; and information and data. At each level the level of difficulty of mathematical problem-solving increases as does the number and extent of connections made within the content.

In addition to the problem-solving aspect, tutors should also ensure that core knowledge and skills are secure in their learners. Tutors must ensure that learners are able to demonstrate underpinning knowledge and skills and problem solving both **with** and **without** a calculator.

Examination administration

There are two options available for the delivery of the externally assessed components:

- paper-based
- onscreen through e-volve

When deciding which delivery method/medium to use, centre staff should think carefully about their learners' individual needs, preferences and normal ways of working, rather than simply choosing the one that is administratively more convenient for the centre.

Both are available on demand, but exam sittings must be booked in advance.

It is a requirement of the qualification that a candidate does not see the same exam version more than once. Where a candidate is entered for a resit, and they have taken all the available assessment versions, the booking will not be processed, and the centre will be notified by Customer Services. The candidate can be booked on the alternative medium, eg. a candidate

who has taken all the available versions of the paper-based exams can be booked for an onscreen exam and vice versa.

Alternatively, the centre will be advised when a new exam version becomes available either on paper or e-volve, so that they can re-book for that candidate at that time.

As we launch the qualifications, we will be operating a phased release of exam versions to allow for the awarding process to take place. This means that there will be fewer versions of the exams available, and we recommend that candidates are prepared thoroughly before being entered for an exam to reduce the risk of resit opportunities not being available. Candidates should not be entered for a resit before they have received their results.

Late entries are not permitted.

All conduct arrangements relating to the administration and invigilation of the external assessments are found in the document **Functional Skills 4748 Mathematics and English Level 1 and 2: Instructions for conducting examinations**.

Results processing of external assessments

Under usual circumstances results are processed and issued within 20 working days after the completed work has been received by City & Guilds.

Please be aware that as new assessment versions are introduced ALL candidate results for those versions will be held until we have received a representative number of completed exam scripts and completed an analysis of the live results to ensure that the pass boundary is set correctly. This is an important step to ensure that the pass mark set is a fair and accurate reflection of the pass standard.

As a result of this, there may be an impact on our ability to issue results within our standard 20 working-day turnaround. Whilst we will do everything we can to issue results promptly and within 20 working-days, please be aware that results may take up to 32 working days.

If you have any specific queries please contact centresupport@cityandguilds.com for further information.

Enquiries about results

The services available for enquiries about results include a review of marking and feedback report. Requests must be submitted within the specified period after the publication of results for individual assessments. For further details of enquiries about results services, please visit the *Appeals* section of the City & Guilds website.

Malpractice

Please refer to the City & Guilds guidance document **Managing cases of suspected malpractice in examinations and assessments**. This document sets out the procedures to be followed in identifying and reporting malpractice by candidates and/or centre staff and the actions which City & Guilds may subsequently take. The document includes examples of candidate and centre malpractice and explains the responsibilities of centre staff to report

actual or suspected malpractice. Centres can access this document on the City & Guilds website.

Examples of candidate malpractice are detailed below (please note that this is not an exhaustive list):

- falsification of assessment evidence or results documentation
- plagiarism of any nature
- collusion with others
- copying from another candidate (including the use of ICT to aid copying), or allowing work to be copied
- deliberate destruction of another's work
- false declaration of authenticity in relation to assessments
- impersonation.

These actions constitute malpractice, for which a penalty (eg disqualification from the assessment) will be applied.

Where suspected malpractice is identified by a centre after the candidate has signed the declaration of authentication, the Head of Centre must submit full details of the case to City & Guilds at the earliest opportunity. Please refer to the form in the document **Managing cases of suspected malpractice in examinations and assessments**.

4 Assessment

Assessment model

The qualifications at levels 1 and 2 are each made up of a single assessment component comprising of **two** sections:

- non-calculator section (25% of total marks)
- calculator section (75% of total marks)

The final grade is based on the total marks achieved for both sections.

The assessments are summative and externally set and marked by City & Guilds.

Availability

No fixed assessment dates. The assessments are on demand but must be ordered from City & Guilds in advance.

There are **two** options available for the delivery of the exams:

- paper-based (at least 14 days' notice needed)
- onscreen (at least 30 minutes' notice needed)

It is a requirement of the qualification that a candidate does not see the same assessment more than once. Where a candidate is entered for a resit and they have already taken all available assessment versions, the booking will not be processed and the centre will be notified.

No late entries are permitted.

Assessment conditions

These assessments must be conducted in line with the conditions specified in the document **Functional Skills 4748 Mathematics and English Level 1 and 2: Instructions for conducting examinations**.

Learning aims and outcomes

Functional Skills mathematics qualifications at levels 1 and 2 should:

- Indicate that students can demonstrate their ability in mathematical skills and their ability to apply these, through appropriate reasoning and decision making, to solve realistic problems of increasing complexity.
- Introduce students to new areas of life and work so that they are exposed to concepts and problems which, while not of immediate concern, may be of value in later life; and
- Enable students to develop an appreciation of the role played by mathematics in the world of work and life in generally.

Assessment design

There is one externally set and marked summative assessment at each level.

At each level the assessment is designed to test a learner's skills with and without a calculator and is therefore split into two sections:

- Section 1 non-calculator (25% of total marks).
- Section 2 calculator (75% of total marks).

The assessment is designed to test both underpinning skills – defined as 'the ability to do maths when not as part of a problem' – and the ability to apply mathematical thinking to solve problems. The weighting given to these in each assessment will be split as follows:

- Underpinning skills 25% of total marks.
- Problem solving 75% of total marks.

Both underpinning skills and problem solving will be assessed within both the non-calculator and the calculator sections.

Each assessment is designed to cover 80-90% of the numbered statements within the subject content*

Each assessment will include coverage from the following three content areas:

- Number and the number system
- Using common measures, shape and space
- Handling information and data

*Subject content for functional skills: Mathematics, Ref: DFE-00046-2018

Duration

Section 1 – 25 minutes

Section 2 – 1 hour 20 minutes.

Grading

Learners will be awarded either a pass or fail for the overall assessment (ie Section 1 and Section 2 combined).

Permitted/prohibited equipment

Candidates will be assessed on their mathematical ability both **with** and **without** a calculator.

Candidates may use a hand-held calculator during the calculator permitted section of the examination only. Hand-held calculators are permitted for both paper-based and e-volve onscreen examinations.

For the e-volve examinations candidates also have the option to use the in-built onscreen calculator. The e-volve system locks down all other software applications whilst the assessment is taking place, so will prevent candidates from being able to access the internet or any other inappropriate aids via the computer that they are using to complete the assessment.

City & Guilds does not prescribe the type of calculator that candidates use but programmable calculators or calculators which access the internet are **not** permitted. Scientific calculators are permitted but are not a requirement, a basic or simple calculator will suffice.

The DfE Subject Content requires candidates to *measure* angles at level 1 and *calculate* angles at level 2. Because of this, candidates sitting the assessment on paper should have a protractor for Level 1 assessments but must **not** have a protractor for Level 2 assessments. Candidates sitting the assessment onscreen examination will **not** need a protractor for the Level 1 assessments.

The tables on the following page summarise the permitted and prohibited equipment for each level and exam method/medium.

Permitted/prohibited equipment

	Section 1 Permitted	Section 1 Prohibited	Section 2 Permitted	Section 2 Prohibited
Level 1 Paper-based	Pen Pencil (for diagrams only) Eraser 30cm ruler Protractor Dictionary or bilingual dictionary	Personal laptops, tablets etc Pre-prepared notes Calculator	Pen Pencil (for diagrams only) Eraser 30cm ruler Protractor Dictionary or bilingual dictionary Calculator	Personal laptops, tablets etc. Pre-prepared notes.
Level 1 E-volve	Pen Blank paper for rough work (candidates must not bring their own, but it may be handed out by invigilator) Dictionary or bilingual dictionary	Personal laptops, tablets etc Pre-prepared notes Calculator	Pen Blank paper for rough work (candidates must not bring their own, but it may be handed out by invigilator) Dictionary or bilingual dictionary Calculator	Personal laptops, tablets etc. Pre-prepared notes.
Level 2 Paper-based	Pen Pencil (for diagrams only) Eraser 30 cm ruler Dictionary or bilingual dictionary	Personal laptops, tablets etc Pre-prepared notes Protractor Calculator	Pen Pencil (for diagrams only) Eraser 30cm ruler Dictionary or bilingual dictionary Calculator	Personal laptops, tablets etc. Pre-prepared notes. Protractor
Level 2 E-volve	Pen Blank paper for rough work (candidates must not bring their own, but it may be handed out by invigilator) Dictionary or bilingual dictionary	Personal laptops, tablets etc. Pre-prepared notes. Protractor Calculator	Pen Blank paper for rough work (candidates must not bring their own, but it may be handed out by invigilator) Dictionary or bilingual dictionary Calculator	Personal laptops, tablets etc. Pre-prepared notes. Protractor

Assessment Specification Level 1

	Total marks	Calculator (75%)	Non-Calculator (25%)	Underpinning knowledge (25%)	Problem solving (75%)	Item types
Section 1 Non-calculator	15	0	15	10	5	Multiple-choice; Short answer fixed response
Section 2 Calculator	45	45	0	5	40	Multiple-Choice; Short answer fixed response; Short answer open response
Totals	60	45	15	15	45	

Assessment Structure Level 1

Section 1 non-calculator (15 marks)

- Underpinning skills – 10 marks
- Problem solving – 5 marks

Section 2 calculator (45 marks)

- Underpinning skills – 5 marks
- Problem solving – 40 marks

Sample assessment materials are available on the [Functional Skills \(4748\) qualification page](#) of the City & Guilds website.

Subject Content Level 1

Use of number and the number system: students at Level 1 are expected to be able to count in steps of various sizes, including negative numbers; read, write and understand positive whole numbers to one million. They can order and compare whole numbers of any size, and fractions, ratios and decimals and recognise the effect of multiplying and dividing by powers of 10, 100 and 1000. They can identify, compare and extend a range of numerical and spatial patterns, use, understand and calculate with fractions, decimals and percentages and calculate simple interest. For specific content on numbers and the number system see below.

Level 1 - using numbers and the number system – whole numbers, fractions, decimals and percentages
1. Read, write, order and compare large numbers (up to one million)
2. Recognise and use positive and negative numbers
3. Multiply and divide whole numbers and decimals by 10, 100, 1000
4. Use multiplication facts and make connections with division facts
5. Use simple formulae expressed in words for one or two-step operations
6. Calculate the squares of one-digit and two-digit numbers
7. Follow the order of precedence of operators
8. Read, write, order and compare common fractions and mixed numbers
9. Find fractions of whole number quantities or measurements
10. Read, write, order and compare decimals up to three decimal places
11. Add, subtract, multiply and divide decimals up to two decimal places
12. Approximate by rounding to a whole number or to one or two decimal places
13. Read, write, order and compare percentages in whole numbers
14. Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof
15. Estimate answers to calculations using fractions and decimals
16. Recognise and calculate equivalences between common fractions, percentages and decimals
17. Work with simple ratio and direct proportions

Use of common measures, shape and space: students at Level 1 are expected to be able to work out simple relationships between common units of measurement to define quantities, also involving mathematical terms for position and direction. They can apply and use calculations with common measures including money, time, length, weight and capacity. They can visualise, draw and describe 2-D and 3-D shapes and use properties of 2-D shapes in calculations. For specific content on common measures, shape and space – see below.

Level 1 - using common measures, shape and space
18. Calculate simple interest in multiples of 5% on amounts of money
19. Calculate discounts in multiples of 5% on amounts of money
20. Convert between units of length, weight, capacity, money and time, in the same system
21. Recognise and make use of simple scales on maps and drawings
22. Calculate the area and perimeter of simple shapes including those that are made up of a combination of rectangles
23. Calculate the volumes of cubes and cuboids
24. Draw 2-D shapes and demonstrate an understanding of line symmetry and knowledge of the relative size of angles
25. Interpret plans, elevations and nets of simple 3-D shapes
26. Use angles when describing position and direction, and measure angles in degrees

Handle information and data: students at Level 1 are expected to be able to select, construct and interpret a range of statistical diagrams in various contexts; select and use methods and forms to present and describe outcomes. They can extract and interpret information from tables, diagrams, charts and graphs; apply simple statistics and recognise features of charts to summarise and compare sets of data; recognise and use the probability scale and interpret probabilities. For specific content on information and data – see below.

Level 1 - handling information and data
27. Represent discrete data in tables, diagrams and charts including pie charts, bar charts and line graphs
28. Group discrete data and represent grouped data graphically
29. Find the mean and range of a set of quantities
30. Understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events
31. Use equally likely outcomes to find the probabilities of simple events and express them as fractions

Solving mathematical problems and decision making: students at Level 1 are expected to be able to use the knowledge and skills listed above to recognise and obtain a solution or solutions to a straightforward problem. A straightforward problem is one that requires students to either work through one step or process or to work through more than one connected step or process.

Individual problems are based on the knowledge and/or skills in the mathematical content areas (number and the number system; common measures, shape and space; information and data). At Level 1 it is expected that the student will be able to address individual problems, some of which draw upon a combination of any two of the mathematical content areas and require students to make connections between those content areas.

Level 1 - solving mathematical problems and decision making
Students at Level 1 are expected to be able to:
<ul style="list-style-type: none"> • Read, understand and use mathematical information and mathematical terms used at this level; • Address individual problems as described above; • Use knowledge and understanding to a required level of accuracy; • Analyse and interpret answers in the context of the original problem; • Check the sense, and reasonableness, of answers; and • Present results with appropriate explanation and interpretation demonstrating simple reasoning to support the process and show consistency with the evidence presented.
The context of individual problems at this level will require some comprehension in order for the student to be able independently to identify and carry out an appropriate mathematical approach.

Assessment Specification Level 2

	Total marks	Calculator (75%)	Non-Calculator (25%)	Underpinning knowledge (25%)	Problem solving (75%)	Item types
Section 1 Non-calculator	15	0	15	10	5	Multiple choice; Short answer fixed response
Section 2 Calculator	45	45	0	5	40	Multiple Choice; Short answer fixed response; Short answer open response
Totals	60	45	15	15	45	

Assessment Structure Level 2

Section 1 non-calculator (15 marks)

- Underpinning skills – 10 marks
- Problem solving – 5 marks

Section 2 calculator (45 marks)

- Underpinning skills – 5 marks
- Problem solving – 40 marks

Sample assessment materials are available on the [Functional Skills \(4748\) qualification page of the City & Guilds website](#).

Subject Content: Level 2

Use of numbers and the number system: students at Level 2 are expected to be able to use numbers of any size; read, write and make use of positive and negative integers of any size; use, order and compare integers, fractions, decimals, percentages and ratios as well as recognise the value of a digit in any whole or decimal number. They can use numerical and spatial patterns for a purpose and calculate with, and convert between, numbers written as fractions, decimals, percentages and ratios. For specific content on numbers and the number system – see below.

Level 2 - using numbers and the number system – whole numbers, fractions, decimals and percentages
1. Read, write, order and compare positive and negative numbers of any size
2. Carry out calculations with numbers up to one million including strategies to check answers including estimation and approximation
3. Evaluate expressions and make substitutions in given formulae in words and symbols
4. Identify and know the equivalence between fractions, decimals and percentages
5. Work out percentages of amounts and express one amount as a percentage of another
6. Calculate percentage change (any size increase and decrease), and original value after percentage change
7. Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers
8. Express one number as a fraction of another
9. Order, approximate and compare decimals
10. Add, subtract, multiply and divide decimals up to three decimal places
11. Understand and calculate using ratios, direct proportion and inverse proportion
12. Follow the order of precedence of operators, including indices

Use of measures, shape and space: students at Level 2 are expected to be able to handle relationships between measurements of various kinds, use angles and coordinates when involving position and direction and make use of geometric properties in calculations with 2-D and 3-D shapes and understand the relationships between them. For specific content on measures, shape and space – see below.

Level 2 - measures, shape and space
13. Calculate amounts of money, compound interest, percentage increases, decreases and discounts including tax and simple budgeting
14. Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph
15. Calculate using compound measures including speed, density and rates of pay
16. Calculate perimeters and areas of 2-D shapes including triangles and circles and composite shapes including non-rectangular shapes (formulae given except for triangles and circles)
17. Use formulae to find volumes and surface areas of 3-D shapes including cylinders (formulae to be given for 3-D shapes other than cylinders)
18. Calculate actual dimensions from scale drawings and create a scale diagram given actual measurements
19. Use coordinates in 2-D, positive and negative, to specify the positions of points
20. Understand and use common 2-D representations of 3-D objects
21. Draw 3-D shapes to include plans and elevations
22. Calculate values of angles and/or coordinates with 2-D and 3-D shapes

Handle information and data: students at Level 2 are expected to be able to construct, interpret and evaluate a range of statistical diagrams. They can calculate and interpret probabilities. They can calculate, analyse, compare and interpret appropriate data sets, tables, diagrams and statistical measures such as common averages (mean, median, mode) and spread (range), and use statistics to compare sets of data. They can identify patterns and trends from data as well as recognise simple correlation. For specific content on information and data see below.

Level 2 - handling information and data
23. Calculate the median and mode of a set of quantities
24. Estimate the mean of a grouped frequency distribution from discrete data
25. Use the mean, median, mode and range to compare two sets of data
26. Work out the probability of combined events including the use of diagrams and tables, including two-way tables
27. Express probabilities as fractions, decimals and percentages
28. Draw and interpret scatter diagrams and recognise positive and negative correlation

Solving mathematical problems and decision making: students at Level 2 are expected to be able to use the knowledge and skills listed above to recognise and obtain a solution or solutions to a complex problem. A complex problem is one which requires a multistep process, typically requiring planning and working through at least two connected steps or processes.

Individual problems are based on a combination of the knowledge and/or skills from the mathematical content areas (number and the number system; measures, shape and space; information and data). At Level 2 it is expected that the student will be able to address individual problems some of which draw upon a combination of all three mathematical areas and require students to make connections between those content areas.

Level 2 - solving mathematical problems and decision making
<p>Students at Level 2 are expected to be able to:</p> <ul style="list-style-type: none"> • Read, understand, and use mathematical information and mathematical terms; • Address individual problems as described above; • Use knowledge and understanding to a required level of accuracy; • Identify suitable operations and calculations to generate results; • Analyse and interpret answers in the context of the original problem; • Check the sense and reasonableness of answers; and • Present and explain results clearly and accurately demonstrating reasoning to support the process and show consistency with the evidence presented. <p>The context of individual problems at this level will require interpretation and analysis in order for the student to be able independently to identify and carry out an appropriate mathematical process or processes.</p>

5 Performance feedback

Performance feedback for individual candidates is available for both paper-based and e-volve exams. The table below summarises how feedback can be accessed:

Assessment component	Feedback format	How accessed?
FS Mathematics Level 1 & 2 Paper-based	Performance codes on Notification of Candidate Results	Request through the Walled Garden. Hard copy notification sent with confirmation of results.
FS Mathematics Level 1 & 2 E-volve	Score Report	Online score report. Based on provisional mark data prior to final quality checks.

Performance feedback – paper-based

A Notification of Results (NCR) statement is issued confirming the grade. It also provides a series of *performance codes* which identify relative performance in each of the relevant **Functional Skills Subject Content Statements**. The list and description of performance codes is available on the **Functional Skills (4748) qualification page of the City & Guilds website**..

Performance feedback – e-volve

A score report is available through e-volve analytics once the examiner has entered a **provisional** mark. The score report indicates the *proportion* of marks (expressed as a percentage) the candidate achieved for each of the relevant Functional Skills Subject Content Statements.

Because the score report is generated from a **provisional mark** (prior to any quality checks) and not the final confirmed mark issued via the Walled Garden, there will sometimes be a discrepancy between the two. Whilst any adjustments are invariably minor, occasionally they will be enough to affect candidates' overall grade, so it's **vital that the overall marks/grades on score reports are treated only as indicative**.

Regardless of any subsequent adjustment to final marks, the score report will nevertheless provide an outline of relative strengths and weaknesses.

6 Access and Inclusion

Access arrangements

We have taken note of the provisions of equalities legislation in developing and administering this specification.

We can make arrangements so that candidates with disabilities, special educational needs and temporary injuries can access the assessment. These arrangements must be made before assessment takes place.

It is the responsibility of the centre to ensure at the start of a programme of learning that candidates will be able to access the requirements of the qualification.

Candidates can have access to all forms of equipment, software and assistance (eg scribe, reader) that constitute their normal way of working, provided that these do not affect the reliability or validity of assessment outcomes or give the learner an assessment advantage over other learners undertaking the same or similar assessments.

Candidates can access any of the following when undertaking the assessment:

Readers

Scribes

Practical Assistants

Transcripts

BSL interpreters

Modified question papers (including Braille)

Extra Time.

Where access arrangements are necessary, the approval process is the same as for any other types of external assessment. Any instances where candidates require extra time, a reader or a scribe **must** be approved in advance by City & Guilds.

For more information on how to apply for access arrangements please refer to our dedicated webpages, **Access Arrangements**.

Exemptions – please note

Disability Discrimination legislation (now incorporated into the 2010 Equality Act) permits the granting of exemptions for specific assessment components within qualifications in certain circumstances. In the case of Functional Skills Mathematics this is **not** possible since the whole qualification comprises only one assessment component.

Modified assessment materials

The following formats may be ordered directly (as Named on Demand assessments):

- Braille These will be in contracted (Grade 2) Unified English Braille (UEB).
- Enlarged print Text for these assessments will be 24 point on A4-sized paper.

Use of accessibility tools

Where candidates' normal way of working involves the use of assistive software that cannot be supported by the e-volve system centres should contact our Access Arrangements team to arrange for the assessment to be provided in a compatible format. They can be contacted at policy@cityandguilds.com or 020 7294 2772.

Access arrangements within the e-volve system

When scheduling assessments on e-volve, it is possible to add time extensions. Any instances where candidates require extra time **must** be approved in advance by City & Guilds. Please see the **Access Arrangements** section of City & Guilds' website for details of how to do this.

Candidates can change the background colour and use some types of magnification software for further details, please see www.cityandguilds.com/e-volve.

Appendix 1 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the *Centre Document Library* on www.cityandguilds.com or click on the links below:

Quality Assurance Standards: Centre Handbook

This document is for all approved centres and provides guidance to support their delivery of our qualifications. It includes information on

- Centre quality assurance criteria and monitoring activities
- Administration and assessment systems
- Centre-facing support teams at City & Guilds / ILM
- Centre quality assurance roles and responsibilities.

The Centre Handbook should be used to ensure compliance with the terms and conditions of the Centre Contract.

Quality Assurance Standards: Centre Assessment

This document sets out the minimum common quality assurance requirements for our regulated and non-regulated qualifications that feature centre assessed components. Specific guidance will also be included in relevant qualification handbooks and/or assessment documentation.

It incorporates our expectations for centre internal quality assurance and the external quality assurance methods we use to ensure that assessment standards are met and upheld. It also details the range of sanctions that may be put in place when centres do not comply with our requirements, or actions that will be taken to align centre marking/assessment to required standards. Additionally, it provides detailed guidance on the secure and valid administration of centre-assessments.

Access arrangements - When and how applications need to be made to City & Guilds

provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The *Centre Document Library* also contains useful information on such things as:

- Conducting examinations
- Registering learners
- Appeals and malpractice

Useful contacts

Please visit the Contact Us section of the City & Guilds website, *Contact us*

Appendix 2 Summary of examination requirements

Section	Duration
Section 1 (non-calculator)	25 minutes
Section 2 (calculator)	1 hour and 20 minutes

The following are **not permitted**:

- A calculator is not permitted in Section 1.
- A protractor is not permitted at Level 2.

For the paper-based exams, candidates will need:

Level 1	<ul style="list-style-type: none">• Pen• Pencil• Eraser• 30cm ruler• Protractor• Calculator (Section 2 only)
Level 2	<ul style="list-style-type: none">• Pen• Pencil• Eraser• 30 cm ruler• Calculator (Section 2 only)

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