Ascentis Entry Level 1 Functional Skills Mathematics

Ascentis Entry Level 2 Functional Skills Mathematics

Ascentis Entry Level 3 Functional Skills Mathematics

Ascentis Level 1 Functional Skills Mathematics

Ascentis Level 2 Functional Skills Mathematics

Specification

Ofqual Number: (See page 4 of the specification)

Ofqual Start Date:	09/07/2024
Ofqual Review Date:	31/07/2027
Ofqual Certification Review Date:	31/07/2028

SUMMARY OF CHANGES

Version and Date	Change Detail	Section
V1 August 2024	First issued	
V2 November 2024	Awarding update for Level 1 and Level 2	Grading and Resits

ABOUT ASCENTIS

Ascentis was originally established in 1975 as OCNW, a co-operative scheme between Universities and Colleges of Further Education. Ascentis was the first 'Open College' in the UK and served the needs of its members for over 34 years. Throughout this period, OCNW grew yet maintained its independence in order that it could continue to respond to the requirements of its customers and provide a consistently high standard of service to all centres across the country and, in recent years, to its increasing cohorts of overseas learners.

In 2009 OCNW became Ascentis – a company limited by guarantee and a registered educational charity.

Ascentis is distinctive and unusual in that it is both:

- **an Awarding Organisation** regulated by the Office of Qualifications and Examinations Regulation (Ofqual, England), Council for the Curriculum, Examinations and Assessment (CCEA, Northern Ireland) and Qualifications Wales

and

- **an Access Validating Agency (AVA)** for 'Access to HE Programmes' licensed by the Quality Assurance Agency for Higher Education (QAA).

Ascentis is therefore able to offer a comprehensive ladder of opportunities to centres and their students, including Foundation Learning, vocational programmes and progressing to QAA recognised Access to HE qualifications. The flexible and adult-friendly ethos of Ascentis has resulted in centres throughout the UK choosing to run its qualifications.

ASCENTIS CONTACT DETAILS

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Introduction

The Ascentis Functional Skills qualifications in Mathematics at Entry Level 1–3, Level 1 and Level 2 are ideal qualifications for young people aged 14–19 and adults wishing to develop their mathematical skills for use across a broad range of contexts. The Functional Skills qualifications will provide a platform for further achievement through the development of fundamental, applied skills in Mathematics. The knowledge, skills and problem-solving approaches contained within the qualifications provide tools that can be utilised in work, life and further learning.

These qualifications will encourage learners to demonstrate their 'Functional Mathematics' skills and are essentially concerned with developing and recognising the ability of learners to apply and transfer skills in ways that are appropriate to their situation. Functional Skills are recognised as vital to learners' personal development, increasing both confidence and effectiveness.

The qualifications focus on the development of the process skills of representing, analysing and interpreting using mathematical skills taken from the coverage and range statements of the skill standards to solve mathematical problems.

The assessments are written to the subject content requirements for Functional Skills qualifications in Mathematics as published by the Department for Education and in line with the coverage and range statements for the level; these are reproduced in full within the Subject Content section of this specification.

There are several features of these qualifications that make them appropriate for their target learners:

- Assessment, verification and certification can be offered on demand, throughout the year, allowing maximum flexibility for centres.
- They can be delivered either as a classroom-based course or as a blended learning programme.
- All levels are assessed via the Surpass platform, making them fully online assessments.
- Ascentis provides additional material to support the qualifications. As well as the specification, sample and practice assessments are available.

Aims

The aims of the qualifications are to:

1 Promote the development of mathematical skills to embed their importance as an evolving life skill

2 Prepare learners to use mathematical skills in a broad range of familiar and working contexts

3 Reward achievement for the mathematical skills learners have developed

Target Group

These qualifications are aimed at a range of learners including young people aged 14–19 and adult learners wishing to develop and demonstrate their skills in mathematics.

The assessment tasks have been designed so that the contexts are applicable to both young people aged 14–19 and adult learners.

Regulation Codes

Qualification Accreditation Number (Ofqual):

Ascentis Entry Level 1 Functional Skills Mathematics: **610/4425/8**
Ascentis Entry Level 2 Functional Skills Mathematics: **610/4426/X**
Ascentis Entry Level 3 Functional Skills Mathematics: **610/4427/1**
Ascentis Level 1 Functional Skills Mathematics: **610/4428/3**
Ascentis Level 2 Functional Skills Mathematics: **610/4429/5**

Guided Learning Hours (GLH)

The recommended guided learning hours for all qualification levels is 55.

Total Qualification Time (TQT)

The total qualification time for Entry Levels 1, 2 and 3 is 58.
The total qualification time for Levels 1 and 2 is 60.

Recommended Prior Knowledge, Attainment and/or Experience

No previous formal qualifications are required for entry to these qualifications at Entry Level 1. Learners should be able to evidence skills at the level below their chosen entry point to these qualifications.

Age Range of Qualification

These qualifications are suitable for young people aged 14–19 and adult learners.

Opportunities for Progression

It is intended that these qualifications will help learners towards the following progression routes:

- From Functional Skills Mathematics Entry Level 1 to Level 2
- Other Functional Skills qualifications at Entry Level, Level 1 and Level 2
- Vocational qualifications at Entry Level, Level 1 and Level 2
- Further study in Further or Higher Education
- Employment

Resources to Support the Delivery of the Qualifications

This specification should be read in conjunction with the following Ascentis documents:

- Ascentis Functional Skills – Instructions for Conducting Examinations
- Ascentis Functional Skills – Instructions for Conducting Controlled Assessments
- Ascentis Functional Skills Centre Handbook

Centre Recognition

These qualifications can be offered only by centres recognised by Ascentis and approved to run these qualifications. Details of the centre recognition and qualification approval process are available from the Ascentis office (tel. 01524 845046) or from the website at www.ascentis.co.uk.

Qualification Approval

If your centre is already a recognised centre, you will need to complete and submit a qualification approval form to deliver these qualifications. Details of the qualification approval process are available from the Ascentis office (tel. 01524 845046) or from the website at www.ascentis.co.uk.

Once approved, Ascentis will deliver subject-specific training free of charge to support you with the delivery, assessment and internal quality assurance (IQA) processes for these qualifications. This training is mandatory due to the qualifications using externally set assessments and all relevant centre staff must be fully aware of the requirements. This training must take place before your centre undertakes any assessments. You may start delivery of the content of the course in the meantime. All staff involved in the delivery, assessment and IQA of the qualifications (and those that have been listed on the centre recognition / qualification approval form) should be present at the training. The session will be delivered by an Ascentis EQA and recorded for auditory purposes. It is the centre's responsibility to ensure that the training is

disseminated to all staff involved in the delivery and assessment of these qualifications thereafter. This should be documented and logged for auditable purposes.Your External Quality Assurer (EQA) will contact you to arrange a mutually convenient date for this training.

Registration

All learners should be registered a minimum of five working days prior to the intended assessment date via the Ascentis electronic registration portal. Late registration may result in a fee (refer to the latest version of the product catalogue).

Learners must be registered before any assessments can be undertaken.

Status in England, Wales and Northern Ireland

These qualifications are available in England. They are offered only in English. If you wish to deliver them in any other nation, please contact development@ascentis.co.uk.

Reasonable Adjustments and Special Considerations

In the development of these qualifications Ascentis has made every attempt to ensure that there are no unnecessary barriers to achievement. For learners with particular requirements, reasonable adjustments may be made (subject to approval in some instances) in order that they can have fair assessment and demonstrate attainment. There are also arrangements for special consideration for any learner suffering illness, injury or indisposition. Full details of reasonable adjustments and special considerations are available from the login area of the Ascentis website www.ascentis.co.uk or through contacting the Ascentis office.

Enquiries and Appeals Procedure

Ascentis has an appeals procedure in accordance with the regulatory arrangements in the Ofqual *General Conditions of Recognition.* Full details of this procedure, including how to make an application, are available from the login area of the Ascentis website www.ascentis.co.uk or through contacting the Ascentis office.

Useful Links

Web links and other resources featured in this specification are suggestions only to support the delivery of these qualifications and should be implemented at the centre's discretion. The hyperlinks provided were live at the time this specification was last reviewed. Please kindly notify Ascentis if you find a link that is no longer active.

Please note: Ascentis is not responsible for the content of third-party websites and, whilst we check external links regularly, the owners of these sites may remove or amend these documents or web pages at any time.

ASSESSMENT AND VERIFICATION ARRANGEMENTS

Assessment

Entry Level 1, Entry Level 2 and Entry Level 3

The Ascentis Functional Skills Mathematics qualifications at Entry Level are assessed through externally set assessments (delivered online through the Surpass platform), internally marked and verified by the centre, within Surpass, and then externally verified by an Ascentis EQA. All assessments taken within the Surpass platform have a percentage of the marks allocated automatically via the computer marking system; this varies between levels and is clearly outlined within the mark scheme for each assessment.

Each Ascentis Functional Skills Mathematics qualification at Entry Level is assessed by one single externally set assessment comprising two sections: calculator not permitted and calculator permitted:

- Section A: Calculator not permitted, worth 25% of the total marks
- Section B: Calculator permitted, worth 75% of the total marks

Each assessment covers the breadth of the subject content. Ascentis has taken reasonable steps to ensure that 25% of the marks available are allocated to underpinning skills and 75% are allocated to problem solving.

For guidance on the use of calculators in assessments, please refer to the Ascentis Functional Skills – Instructions for Conducting Controlled Assessments document.

At Entry Level, Ascentis does not permit Centres to adapt questions or tasks in assessments.

Time limits for the completion of the assessments is provided in the table below.

Centres are required to retain all associated documentation and evidence relating to assessment of candidates. All administrative documents must be retained in centre for a period of 3 years.

Level 1 and Level 2

The Ascentis Functional Skills Mathematics qualifications at Level 1 and Level 2 are assessed through externally set assessments (delivered online through the Surpass platform) and externally marked and verified by Ascentis. All assessments taken within the Surpass platform have a percentage of the marks allocated automatically via the computer marking system; this varies between levels and is clearly outlined within the mark scheme for each assessment.

Each Ascentis Functional Skills Mathematics qualification at Level 1 and Level 2 is assessed by one single externally set assessment comprising two sections: calculator not permitted and calculator permitted.

- Section A: Calculator not permitted, worth 25% of the total marks
- Section B: Calculator permitted, worth 75% of the total marks

Each assessment covers an appropriate proportion of the subject content. Ascentis has taken reasonable steps to ensure that 25% of the marks available are allocated to underpinning skills and 75% are allocated to problem solving.

For guidance on the use of calculators in assessments, please refer to the Ascentis Functional Skills – Instructions for Conducting Examinations document.

Time limits for the completion of the assessments is provided in the table below.

Assessment	Assessment Time
Entry Level 1	1 hour 30 mins
Entry Level 2	1 hour 40 mins
Entry Level 3	1 hour 40 mins
Level 1	2 hours 10 mins
Level 2	2 hours 10 mins

Centres are required to retain all associated documentation and evidence relating to assessment of candidates. All administrative documents must be retained in centre for a period of 3 years.

Grading and Resits

The qualifications at all levels are not graded. Learners must achieve a pass mark to be awarded a pass. Learners who do not achieve this pass mark will be issued with Fail.

Learners who do not achieve a pass are entitled to take two resits.

All new assessment versions for **Level 1 and Level 2** will undergo an initial process of Awarding. Live results will be analysed to ensure that the pass mark set is fair, reliable and consistent for learners taking the qualification. As a result, the timeframe for Ascentis to issue learner results in line with normal arrangements may be delayed to allow the awarding process to be conducted. Once the pass marks have been established for new assessment versions, Ascentis will issue results in line with our published timeframes, available on the Ascentis website.

Conduct of Assessment

The following documents have been produced by Ascentis to support centres in the conduct of assessment:

- Ascentis Functional Skills – Instructions for Conducting Examinations
- Ascentis Functional Skills – Instructions for Conducting Controlled Assessments

Verification (applies to Entry Level 1, Entry Level 2 and Entry Level 3 only)

Internal Verification

Internal verification is the process of ensuring that everyone who assesses a particular unit in a centre is assessing to the same standards, i.e. consistently and reliably. All assessments at Entry Level must be subject to centre IQA sampling in line with the centre's own IQA policy and sampling strategy.

Internal verification activities will include: ensuring any stimulus or materials used for the purposes of assessment are fit for purpose; sampling assessments; standardisation of assessment decisions; and standardisation of internal verification decisions. Internal Verifiers are also responsible for supporting assessors by providing constructive advice and guidance in relation to the qualification delivered.

Ascentis offers free refresher training in support of this role through an Ascentis Internal Quality Assurance webinar. The purpose of this is to provide staff in centres with knowledge and understanding of Ascentis IQA processes and procedures, which will enable them to carry out their role more effectively. Additional webinars, bespoke to the delivery and quality assurance of Functional Skills, are also available throughout the academic year. To book your place on a webinar or request further information, please contact the Ascentis Quality Assurance Team (qualityassurance@ascentis.co.uk). Further information is available from the login section of the Ascentis website www.ascentis.co.uk.

External Verification

Recognised centres will be verified in accordance with a verification model that is considered most appropriate for the provision. More frequent verifications can be requested from the Ascentis Quality

Assurance team, for which there is usually an additional charge. External verification will usually focus on the following areas:

- Ensuring the centre is using appropriate assessment methods and making appropriate assessment decisions according to Ascentis' requirements
- Ensuring the centre has appropriate IQA arrangements as outlined within the relevant qualification specification
- Checking that the centre is using appropriate administrative arrangements to support the function of delivery and assessment

EQAs will usually do this through discussion with the assessment and IQA staff, verifying a sample of learners' evidence, talking to learners, and reviewing relevant centre documentation and systems.

Marking (applies to Level 1 and Level 2 only)

External Marking

All Ascentis Functional Skills Mathematics qualifications at Level 1 and Level 2 are externally marked by Ascentis assessment markers. The Lead EQA for Functional Skills will undertake regular sampling of assessment decisions made by Ascentis markers. This IQA process ensures consistency of awarding body marking. From these quality assurance activities, an annual 'Lead EQA Report' will be published and made available to centres to support and guide teaching and learning practice.

Knowledge, Understanding and Skills Required of Assessors and Internal Verifiers

Assessors and those delivering these qualifications should be knowledgeable and competent within the areas of Mathematics and Numeracy in which they are making assessment decisions or delivering these qualifications.

Centres are responsible for ensuring that all staff involved in the delivery of these qualifications are appropriately qualified. Ascentis will not be held responsible for any issues that relate to centre staffing which could impact on the successful delivery, assessment and IQA of our qualifications.

Those delivering these qualifications should preferably hold or be working towards a recognised teaching qualification. Assessors must be able to make appropriate assessment decisions. Internal Quality Assurers need to have knowledge and experience of the IQA processes.

Centres are required to ensure that appropriate training and support is in place for staff involved in the delivery, assessment and internal verification of Ascentis qualifications.

Ascentis offers free support for centres. Further information on the support that is available can be found on the Ascentis website.

SUBJECT CONTENT: ENTRY LEVEL 1, 2 and 3

Functional Skills Mathematics qualifications at these levels should:

- Enable learners to become confident in their use of fundamental mathematical knowledge and skills, as described through the content
- Indicate that learners can demonstrate their understanding by applying their knowledge and skills to solve simple mathematical problems or carry out simple tasks

Entry Level 1

Using numbers and the number system: whole numbers	
Learners are expected to be able to:	
E1/N1.	Read, write, order and compare numbers up to 20
E1/N2.	Use whole numbers to count up to 20 items including zero
E1/N3.	Add numbers which total up to 20, and subtract numbers from numbers up to 20
E1/N4.	Recognise and interpret the symbols +, – and = appropriately

Use of common measures, shape and space	
Learners are expected to be able to:	
E1/M1.	Recognise coins and notes and write them in numbers with the correct symbols (£ & p), where these involve numbers up to 20
E1/M2.	Read 12 hour digital and analogue clocks in hours
E1/M3.	Know the number of days in a week, months, and seasons in a year. Be able to name and sequence
E1/M4.	Describe and make comparisons in words between measures of items including size, length, width, height, weight and capacity
E1/M5.	Identify and recognise common 2-D and 3-D shapes including circle, cube, rectangle (incl. square) and triangle
E1/M6.	Use everyday positional vocabulary to describe position and direction including left, right, in front, behind, under and above

Handling information and data	
Learners are expected to be able to:	
E1/D1.	Read numerical information from lists
E1/D2.	Sort and classify objects using a single criterion
E1/D3.	Read and draw simple charts and diagrams including a tally chart, block diagram/graph

Solving mathematical problems and decision making: Entry Level 1 learners are expected to be able to use the knowledge and skills listed above to recognise a simple mathematical problem and obtain a solution. A simple mathematical problem is one which requires working through one step or process.

At Entry Level 1 it is expected that learners will be able to address individual problems each of which draw upon knowledge and/or skills from one mathematical content area (i.e. number and the number system; common measures, shape and space; information and data).

Solving mathematical problems and decision making
Learners at Entry Level 1 are expected to be able to:
• Use given mathematical information and recognise and use simple mathematical terms appropriate to Entry Level 1 • Use the methods given above to produce, check and present results that make sense • Provide a simple explanation for those results The context for simple problems at this level should be familiar to all learners and easily described.

Entry Level 2

Using numbers and the number system: whole numbers, fractions and decimals	
Learners are expected to be able to:	
E2/N1.	Count reliably up to 100 items
E2/N2.	Read, write, order and compare numbers up to 200
E2/N3.	Recognise and sequence odd and even numbers up to 100
E2/N4.	Recognise and interpret the symbols +, –, x, ÷ and = appropriately
E2/N5.	Add and subtract two-digit numbers
E2/N6.	Multiply whole numbers in the range 0x0 to 12x12 (times tables)
E2/N7.	Know the number of hours in a day and weeks in a year. Be able to name and sequence
E2/N8.	Divide two-digit whole numbers by single-digit whole numbers and express remainders
E2/N9.	Approximate by rounding to the nearest 10, and use this rounded answer to check results
E2/N10.	Recognise simple fractions (halves, quarters and tenths) of whole numbers and shapes
E2/N11.	Read, write and use decimals to one decimal place

Use of common measures, shape and space	
Learners are expected to be able to:	
E2/M1.	Calculate money with pence up to one pound and in whole pounds of multiple items and write with the correct symbols (£ or p)
E2/M2.	Read and record time in common date formats, and read time displayed on analogue clocks in hours, half hours and quarter hours, and understand hours from a 24-hour digital clock
E2/M3.	Use metric measures of length including millimetres, centimetres, metres and kilometres
E2/M4.	Use measures of weight including grams and kilograms
E2/M5.	Use measures of capacity including millilitres and litres
E2/M6.	Read and compare positive temperatures
E2/M7.	Read and use simple scales to the nearest labelled division
E2/M8.	Recognise and name 2-D and 3-D shapes including pentagons, hexagons, cylinders, cuboids, pyramids and spheres
E2/M9.	Describe the properties of common 2-D and 3-D shapes including numbers of sides, corners, edges, faces, angles and base
E2/M10.	Use appropriate positional vocabulary to describe position and direction including between, inside, outside, middle, below, on top, forwards and backwards

Handling information and data	
Learners are expected to be able to:	
E2/D1.	Extract information from lists, tables, diagrams and bar charts
E2/D2.	Make numerical comparisons from bar charts
E2/D3.	Sort and classify objects using two criteria
E2/D4.	Take information from one format and represent the information in another format including use of bar charts

Solving mathematical problems and decision making: Entry Level 2 learners are expected to be able to use the knowledge and skills listed above to recognise a simple problem and obtain a solution. A simple problem is one which requires working through one step or process.

At Entry Level 2 it is expected that learners will be able to address individual problems each of which draw upon knowledge and/or skills from one mathematical content area (i.e. number and the number system; common measures, shape and space; information and data).

Solving mathematical problems and decision making
Learners at Entry Level 2 are expected to be able to:
• Use given mathematical information including numbers, symbols, simple diagrams and charts • Recognise, understand and use simple mathematical terms appropriate to Entry Level 2 • Use the methods given above to produce, check and present results that make sense • Present appropriate explanations using numbers, measures, simple diagrams, simple charts and symbols appropriate to Entry Level 2 The context for simple problems at this level should be familiar to all learners and easily described.

Entry Level 3

Using numbers and the number system: whole numbers, fractions and decimals	
Learners are expected to be able to:	
E3/N1.	Count, read, write, order and compare numbers up to 1000
E3/N2.	Add and subtract using three-digit whole numbers
E3/N3.	Divide three-digit whole numbers by single and double digit whole numbers and express remainders
E3/N4.	Multiply two-digit whole numbers by single and double digit whole numbers
E3/N5.	Approximate by rounding numbers less than 1000 to the nearest 10 or 100 and use this rounded answer to check results
E3/N6.	Recognise and continue linear sequences of numbers up to 100
E3/N7.	Read, write and understand thirds, quarters, fifths and tenths including equivalent forms
E3/N8.	Read, write and use decimals up to two decimal places
E3/N9.	Recognise and continue sequences that involve decimals

Use of common measures, shape and space	
Learners are expected to be able to:	
E3/M1.	Calculate with money using decimal notation and express money correctly in writing in pounds and pence
E3/M2.	Round amounts of money to the nearest £1 or 10p
E3/M3.	Read, measure and record time using am and pm
E3/M4.	Read time from analogue and 24-hour digital clocks in hours and minutes
E3/M5.	Use and compare measures of length, capacity, weight and temperature using metric or imperial units to the nearest labelled or unlabelled division
E3/M6.	Compare metric measures of length including millimetres, centimetres, metres and kilometres
E3/M7.	Compare measures of weight including grams and kilograms
E3/M8.	Compare measures of capacity including millilitres and litres
E3/M9.	Use a suitable instrument to measure mass and length
E3/M10.	Sort 2-D and 3-D shapes using properties including lines of symmetry, length, right angles, angles including in rectangles and triangles
E3/M11.	Use appropriate positional vocabulary to describe position and direction including eight compass points and including full/half/quarter turns

Handling information and data	
Learners are expected to be able to:	
E3/D1.	Extract information from lists, tables, diagrams and charts and create frequency tables
E3/D2.	Interpret information, to make comparisons and record changes, from different formats including bar charts and simple line graphs
E3/D3.	Organise and represent information in appropriate ways including tables, diagrams, simple line graphs and bar charts

Solving mathematical problems and decision making: Entry Level 3 learners are expected to be able to use the knowledge and skills listed above to recognise a simple problem and obtain a solution. A simple problem is one which requires working through one step or process.

At Entry Level 3 it is expected that learners will be able to address individual problems each of which draw upon knowledge and/or skills from one mathematical content area (i.e. number and the number system; common measures, shape and space; information and data).

Solving mathematical problems and decision making
Learners at Entry Level 3 are expected to be able to:
• Use given mathematical information including numbers, symbols, simple diagrams and charts • Recognise, understand and use simple mathematical terms appropriate to Entry Level 3 • Use the methods given above to produce, check and present results that make sense to an appropriate level of accuracy • Present results with appropriate and reasoned explanation using numbers, measures, simple diagrams, charts and symbols appropriate to Entry Level 3 The context for simple problems at this level should be familiar to all learners.

SUBJECT CONTENT: LEVEL 1 and 2

Functional Skills Mathematics qualifications at Levels 1 and 2 should:

- Indicate that learners 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 learners 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
- Enable learners to develop an appreciation of the role played by mathematics in the world of work and in life generally

Level 1

Using numbers and the number system: learners at Level 1 are expected to be able to count in steps of various sizes, including negative numbers, and 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.

Using numbers and the number system: whole numbers, fractions, decimals and percentages	
Learners are expected to be able to:	
L1/N1.	Read, write, order and compare large numbers (up to one million)
L1/N2.	Recognise and use positive and negative numbers
L1/N3.	Multiply and divide whole numbers and decimals by 10, 100, 1000
L1/N4.	Use multiplication facts and make connections with division facts
L1/N5.	Use simple formulae expressed in words for one or two-step operations
L1/N6.	Calculate the squares of one-digit and two-digit numbers
L1/N7.	Follow the order of precedence of operators
L1/N8.	Read, write, order and compare common fractions and mixed numbers
L1/N9.	Find fractions of whole number quantities or measurements
L1/N10.	Read, write, order and compare decimals up to three decimal places
L1/N11.	Add, subtract, multiply and divide decimals up to two decimal places
L1/N12.	Approximate by rounding to a whole number or to one or two decimal places
L1/N13.	Read, write, order and compare percentages in whole numbers
L1/N14.	Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof
L1/N15.	Estimate answers to calculations using fractions and decimals
L1/N16.	Recognise and calculate equivalences between common fractions, percentages and decimals
L1/N17.	Work with simple ratio and direct proportions

Use of common measures, shape and space: learners 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.

Use of common measures, shape and space	
Learners are expected to be able to:	
L1/M1.	Calculate simple interest in multiples of 5% on amounts of money
L1/M2.	Calculate discounts in multiples of 5% on amounts of money
L1/M3.	Convert between units of length, weight, capacity, money and time, in the same system
L1/M4.	Recognise and make use of simple scales on maps and drawings
L1/M5.	Calculate the area and perimeter of simple shapes including those that are made up of a combination of rectangles
L1/M6.	Calculate the volumes of cubes and cuboids
L1/M7.	Draw 2-D shapes and demonstrate an understanding of line symmetry and knowledge of the relative size of angles
L1/M8.	Interpret plans, elevations and nets of simple 3-D shapes
L1/M9.	Use angles when describing position and direction, and measure angles in degrees

Handling information and data: learners at Level 1 are expected to be able to select, construct and interpret a range of statistical diagrams in various contexts, and 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; and recognise and use the probability scale and interpret probabilities. For specific content on information and data, see below.

Handling information and data	
Learners are expected to be able to:	
L1/D1.	Represent discrete data in tables, diagrams and charts including pie charts, bar charts and line graphs
L1/D2.	Group discrete data and represent grouped data graphically
L1/D3.	Find the mean and range of a set of quantities
L1/D4.	Understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events
L1/D5.	Use equally likely outcomes to find the probabilities of simple events and express them as fractions

Solving mathematical problems and decision making: learners 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 learners 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 learners will be able to address individual problems, some of which draw upon a combination of any two of the mathematical content areas and require learners to make connections between those content areas.

Solving mathematical problems and decision making
Learners at Level 1 are expected to be able to:
• 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 • 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 learners to be able independently to identify and carry out an appropriate mathematical approach.

Level 2

Using numbers and the number system: learners 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.

Using numbers and the number system: whole numbers, fractions, decimals and percentages	
Learners are expected to be able to:	
L2/N1.	Read, write, order and compare positive and negative numbers of any size
L2/N2.	Carry out calculations with numbers up to one million including strategies to check answers including estimation and approximation
L2/N3.	Evaluate expressions and make substitutions in given formulae in words and symbols
L2/N4.	Identify and know the equivalence between fractions, decimals and percentages
L2/N5.	Work out percentages of amounts and express one amount as a percentage of another
L2/N6.	Calculate percentage change (any size increase and decrease), and original value after percentage change
L2/N7.	Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers
L2/N8.	Express one number as a fraction of another
L2/N9.	Order, approximate and compare decimals
L2/N10.	Add, subtract, multiply and divide decimals up to three decimal places
L2/N11.	Understand and calculate using ratios, direct proportion and inverse proportion
L2/N12.	Follow the order of precedence of operators, including indices

Use of common measures, shape and space: learners 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.

Use of common measures, shape and space	
Learners are expected to be able to:	
L2/M1.	Calculate amounts of money, compound interest, percentage increases, decreases and discounts including tax and simple budgeting
L2/M2.	Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph
L2/M3.	Calculate using compound measures including speed, density and rates of pay
L2/M4.	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)
L2/M5.	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)

L2/M6.	Calculate actual dimensions from scale drawings and create a scale diagram given actual measurements
L2/M7.	Use coordinates in 2-D, positive and negative, to specify the positions of points
L2/M8.	Understand and use common 2-D representations of 3-D objects
L2/M9.	Draw 3-D shapes to include plans and elevations
L2/M10.	Calculate values of angles and/or coordinates with 2-D and 3-D shapes

Handling information and data: learners 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.

Handling data and information	
Learners are expected to be able to:	
L2/D1.	Calculate the median and mode of a set of quantities
L2/D2.	Estimate the mean of a grouped frequency distribution from discrete data
L2/D3.	Use the mean, median, mode and range to compare two sets of data
L2/D4.	Work out the probability of combined events including the use of diagrams and tables, including two-way tables
L2/D5.	Express probabilities as fractions, decimals and percentages
L2/D6.	Draw and interpret scatter diagrams and recognise positive and negative correlation

Solving mathematical problems and decision making: learners 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 learners will be able to address individual problems some of which draw upon a combination of all three mathematical areas and require learners to make connections between those content areas.

Solving mathematical problems and decision making
Learners at Level 2 are expected to be able to:
• 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 • Present and explain results clearly and accurately demonstrating reasoning to support the process and show consistency with the evidence presented The context of individual problems at this level will require interpretation and analysis in order for learners to be able independently to identify and carry out an appropriate mathematical process or processes.