



IQ Functional Skills Qualification in Mathematics at
Entry Level 1
Entry Level 2
Entry Level 3
Level 1
Level 2

Specification

Entry 1	Regulation No: 600/9482/5
Entry 2	Regulation No: 600/9483/7
Entry 3	Regulation No: 601/0041/2
Level 1	Regulation No: 601/0244/5
Level 2	Regulation No: 601/0173/8

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About Industry Qualifications (IQ)

Industry Qualifications' (IQ) founding principle is to provide qualifications that are responsive to the needs of the vocational sector to ensure that learners are provided with a learning experience relevant to their industry. We aim to provide qualifications that are valued and recognised as being best in class by ensuring the highest levels of assessment integrity and customer service. We are approved by UK's regulators of qualifications: Ofqual, CCEA, Qualification Wales and SQA Accreditation.

The IQ Group

IQ Group of Companies seek to provide an internationally recognised mark of quality assurance for skills, management systems, products and services. IQ promotes quality, partnership and integrity through its group of companies spanning education, professional membership and standards certification markets. Our focus is on high growth, highly specialised sectors with potential for international growth.

Contact Us

We are here to help if you need further guidance from us. The IQ customer service team can be contacted between 9am and 5pm Monday to Friday at:

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For guidance on any fees we charge for the services we provide, please see the IQ Price Guide:

www.industryqualifications.org.uk/centre-portal/iq-price-guide

Introduction

This specification is intended for trainers, centres and learners. General information regarding centre approval, registration, IQR (IQs candidate management system), assessment papers, certification, conducting external and controlled assessment, reasonable adjustments, special consideration, appeals procedure are available from the website

It should be read in conjunction with the following documents:

- IQ Functional Skills Centre Guide.
- Assessment @ IQ Online Assessments Guide for Centres, Candidates and Invigilators.

Version Number

Please ensure that you have the latest and most up to date version of documents. Please check the website for the most up to date version. To check which version you have please see the footer which will give you the version number.

V3.0 updated December 2016: All pages re-formatted, updates to pages 3, 4, 5 and 6.

Definitions

Controlled assessment: Assessment is internally set and marked to IQ guidelines. Assessments are taken under supervised conditions, using prepared notes, if applicable.

On-demand assessment: Assessment is available on a 'when ready' basis.

On-screen assessment: Assessment is delivered and taken and using a computer.

About these Qualifications

Functional skills mathematics are free standing qualifications designed to give learners skills to operate confidently, effectively and independently in education, work and everyday life. They have been created in response to employers recommendations that learners would benefit from a thorough grounding in the basics and the ability to problem-solve. IQ functional skills qualifications are available in English, mathematics and ICT at Entry level 1, 2, 3 and levels 1 and 2. They assess the functional skills standards, coverage and range.

Objective

Preparing learners for employment

Purpose

A Recognise personal growth and engagement in learning
 A4. Recognise development of employability skills and/or knowledge

Sector

14.1 Foundations for learning and life.

Structure

Each IQ functional skills qualification in mathematics consists of one unit with a single assessment. Each qualification is worth a notional five QCF credits.

Relationship and Equivalence to Other Qualifications

Functional skills have replaced the Key Skills qualifications for Communication, Application of Number and ICT for post-16 learners and in apprenticeship frameworks; they have also replaced Skills for Life (Adult Literacy and Adult Numeracy) qualifications at levels 1 and 2. They are part of foundation learning programmes. GCSEs in English, mathematics and ICT contain functional elements.

Level Equivalences				
Functional Skills Mathematics	Adult Numeracy	GCSE	National Curriculum Mathematics	Key Skills Application of Number
Entry 1	Entry 1		Level 1	
Entry 2	Entry 2		Levels 1-2	
Entry 3	Entry 3		Levels 1-3	
Level 1	Level 1	D - G	Levels 1-4	Level 1
Level 2	Level 2	A* - C	Levels 1-6	Level 2

Delivery

There are 45 guided learning hours for each qualification. It is the responsibility of centres to decide the appropriate course duration, based on the learners' ability and level of existing knowledge. It is possible, therefore, that the number of guided learning hours can vary according to learners' needs. Guided learning hours are defined as all times when a member of staff is working in a supervisory capacity to give specific guidance towards the learning aim. IQ recommends that an initial assessment is undertaken so that the appropriate guided learning hours are attributed to the individual learner.

Assessment

Assessment for these qualifications is summative and should only be attempted when the learner has acquired the functional mathematics skills and knowledge to achieve success. Assessment can take place in any supervised environment which can support an electronic or paper-based assessment (depending on centre choice) and includes the learner's workplace.

The assessment tasks cover all the skill standards for the level and sample the coverage and range. All of the coverage and range are assessed over a one year cycle of assessments. This qualification is not graded, successful learners achieve a pass.

Qualification	Assessment Description	Time Allowed	Calculator	Paper Based/ Electronic Assessment
Entry 1	One IQ externally set and internally marked, externally quality assured assessment with related tasks (entry 1 total 25 marks, entry 2 total 30 marks)	One and a half hours (unless access arrangements apply), the time can be split over more than one sitting	Calculator allowed	Learners interact with the assessor and record their answers on a hard copy question paper
Entry 2				Learners record their answers on a hard copy question paper
Entry 3	One IQ externally set and internally marked and externally quality assured assessment with related tasks (total 30 marks)	Learners record their answers on a hard copy question paper		
Level 1	One IQ externally set and marked assessment comprising of two unrelated tasks (total 40 marks)	Two hours (unless access arrangements apply)		Learners record their answers on a hard copy question paper or take an onscreen assessment
Level 2	One IQ externally set and marked assessment comprising of two unrelated tasks (total 50 marks)			

Entry level qualifications are taken under controlled assessment regulations. This means that the assessments and their mark schemes are provided by IQ and marked by the centre. The centre will be offered a choice of assessment papers and should choose the most appropriate one for their learners. The assessment tasks have been designed so that centres can contextualise (adapt them) to reflect their learners' characteristics and culture.

Each functional skills entry level assessment contains detailed instructions for the assessor and the learner. Centres should familiarise themselves with the assessment before it takes place in order to prepare the learner and source any materials that may be required.

Level 1 and level 2 qualifications are taken under examination conditions and must take place in an environment free from extraneous noise to enable the learner to complete their tasks without disruption or interruption. This can be the learner's workplace.

Equipment for external assessments

The following equipment may be necessary for an external assessment and centres should have the following available for any external assessment so that it can be provided to the candidates should it be required (as listed on the front page of the assessment): Calculator, graph paper, pen, pencils, rough paper, rubber, protractor, set square, ruler and drawing compass.

Age Range and Geographical Coverage

These qualifications are approved for learners aged 14 plus in England only.

Learner Entry Requirements

There are no formal entry requirements for functional skills mathematics qualifications; however centres should ensure that learners have the maturity and experience to access functional skills assessment before they are entered.

Progression

Learners can progress to further functional skills mathematics qualifications as they have been designed to encourage progress through each of the levels. Each level subsumes the previous level.

Tutor Requirements

IQ requires that all tutors are competent and/or qualified in mathematics to at least level 2 if delivering entry level or level 1 functional mathematics. Those delivering level 2 should be competent and/or qualified to level 3. All tutors must be conversant with the qualifications and their assessment. Tutors must have (or are working towards) the relevant teaching or assessor qualification for their industry. Centres are expected to support their staff in ensuring that their knowledge of functional skills standards, delivery and assessment requirements remain current.

Tutors responsible for delivering and assessing controlled assessment must undertake the relevant IQ training available from the IQ website.

Centre Requirements

Centres must be approved by IQ in order to offer this qualification.

Access Arrangements

Functional skills qualifications have been designed to be inclusive and to minimise the need to make reasonable adjustments or exemptions. Learners taking functional skills mathematics assessments should have access to the support and equipment that reflect their normal way of working during their teaching and learning. However, these arrangements should not give unfair advantage over other learners.

Eligibility for applying access arrangements should be evidenced by a learner assessment from a specialist assessor and the record kept by the centre. There is no requirement for the centre to inform IQ that they are applying access arrangements, reasonable adjustments or special considerations, unless they fall outside of the permitted arrangements. If access arrangements have been applied this must be recorded on the attendance form for the examination/assessment. A record of the specialist assessor assessment should be available for the IQ EV and regulators.

The following access arrangements for all levels of functional skills mathematics can be made available if eligibility is established by assessment by the specialist assessor:

- Extra time.
- Reader.
- Oral language modifier.
- Sign language interpreter.
- Scribe.
- Word processor.
- Transcript.
- Practical assistant.
- Modified question papers (including braille).
- Models, visual/tactile aids, speaking scales.

A process map for 'Understanding Access Arrangements and Special Consideration for General Qualifications' can be downloaded from the Ofqual website. <http://www2.ofqual.gov.uk/help-and-support/94-articles/442-understanding-access-arrangements-and-special-consideration>

Functional Skills Qualification in Mathematics at Entry Level 1

Coverage and range: Provides the knowledge and techniques that learners would be expected to apply at each level, however these are a guide to the minimum content.

Skills Standards	Coverage and Range	Assessment Weighting
<p>Representing</p> <p>1. Understand simple mathematical information in familiar contexts and situations</p>	<p>a) Understand and use numbers with one significant figure in practical contexts</p> <p>b) Describe the properties of size and measure, including length, width, height and weight, and make simple comparisons</p> <p>c) Describe position</p> <p>d) Recognise and select coins and notes</p> <p>e) Recognise and name common 2D And 3D shapes</p> <p>f) Sort and classify objects practically using a single criterion</p>	30-40%
<p>Analysing</p> <p>2. Use mathematics to obtain answers to simple given practical problems that are clear and routine</p> <p>3. Generate results that make sense for a specified task</p>		30-40%
<p>Interpreting</p> <p>4. Provide solutions to simple given practical problems in familiar contexts and situations</p>		30-40%

Functional Skills Qualifications in Mathematics at Entry 2

Coverage and range: Provides the knowledge and techniques that learners would be expected to apply at each level, however these are a guide to the minimum content.

Skill Standards	Coverage and Range	Assessment Weighting
<p>Representing</p> <p>1. Understand simple practical problems in familiar contexts and situations</p> <p>2. Select basic mathematics to obtain answers</p>	<p>a) Understand and use whole numbers with up to two significant figures</p> <p>b) Understand and use addition/subtraction in practical situations</p> <p>c) Use doubling and halving in practical situations</p> <p>d) Recognise and use familiar measures, including time and money</p> <p>e) Recognise sequences of numbers, including odd and even numbers</p> <p>f) Use simple scales and measure to the nearest labelled division</p> <p>g) Know properties of simple 2D and 3D shapes</p> <p>h) Extract information from simple lists</p>	<p>30-40%</p>
<p>Analysing</p> <p>3. Use basic mathematics to obtain answers to simple given practical problems that are clear and routine</p> <p>4. Generate results to a given level of accuracy</p> <p>5. Use given checking procedures</p>		<p>30-40%</p>
<p>Interpreting</p> <p>6. Describe solutions to simple practical problems in familiar contexts and situations</p>		<p>30-40%</p>

Functional Skills Qualification in Mathematics at Entry 3

Coverage and range: Provides the knowledge and techniques that learners would be expected to apply at each level, however these are a guide to the minimum content.

Skill Standards	Coverage and Range	Assessment Weighting
<p>Representing</p> <p>1. Understand practical problems in familiar contexts and situations</p> <p>2. Begin to develop own strategies for solving simple problems</p> <p>3. Select mathematics to obtain answers to simple given practical problems that are clear and routine</p>	<p>a) Add and subtract using three-digit numbers</p> <p>b) Solve practical problems involving multiplication and division by 2, 3, 4, 5 and 10</p> <p>c) Round to the nearest 10 or 100</p> <p>d) Understand and use simple fractions</p> <p>e) Understand, estimate, measure and compare length, capacity, weight and temperature</p> <p>f) Understand decimals to two decimal places in practical contexts</p> <p>g) Recognise and describe number patterns</p> <p>h) Complete simple calculations involving money and measures</p> <p>i) Recognise and name simple 2D and 3D shapes and their properties</p> <p>j) Use metric units in everyday situations</p> <p>k) Extract, use and compare information from lists, tables, simple charts and simple graphs</p>	<p>30-40%</p>
<p>Analysing</p> <p>4. Apply mathematics to obtain answers to simple given practical problems that are clear and routine</p> <p>5. Use simple checking procedures</p>		<p>30-40%</p>
<p>Interpreting</p> <p>6. Interpret and communicate solutions to practical problems in familiar contexts and situations</p>		<p>30-40%</p>

Functional Skills Qualification in Mathematics at Level 1

Coverage and range: Provides the knowledge and techniques that learners would be expected to apply at each level, however these are a guide to the minimum content.

Skill standards	Coverage and Range	Assessment Weighting
<p>Representing</p> <ol style="list-style-type: none"> 1. Understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine 2. Identify and obtain necessary information to tackle the problem 3. Select mathematics in an organised way to find solutions 	<ol style="list-style-type: none"> a) Understand and use whole numbers and understand negative numbers in practical contexts b) Add, subtract, multiply and divide whole numbers using a range of strategies c) Understand and use equivalences between common fractions, decimals and percentages d) Add and subtract decimals up to two decimal places e) Solve problems involving ratio, where one number is a multiple of the other f) Use simple formulae expressed in words for one or two-step operations g) Solve problems requiring calculation with common measures, including money, time, length, weight, capacity and temperature h) Convert units of measure in the same system i) Work out areas and perimeters in practical situations j) Construct geometric diagrams, models and shapes k) Extract and interpret information from tables, diagrams, charts and graphs l) Collect and record discrete data and organise and represent information in different way m) Find mean and range n) Use data to assess the likelihood of an outcome 	<p>30-40%</p>
<p>Analysing</p> <ol style="list-style-type: none"> 4. Apply mathematics in an organised way to find solutions to straightforward practical problems for different purposes 5. Use appropriate checking procedures at each stage 		<p>30-40%</p>
<p>Interpreting</p> <ol style="list-style-type: none"> 6. Interpret and communicate solutions to practical problems, drawing simple conclusions and giving explanations 		<p>30-40%</p>

Functional Skills Qualification in Mathematics at Level 2

Coverage and range: Provides the knowledge and techniques that learners would be expected to apply at each level, however these are a guide to the minimum content.

Skill Standards	Coverage and Range	Assessment Weighting
<p>Representing</p> <p>1. Understand routine and non-routine problems in familiar and unfamiliar contexts and situations</p> <p>2. Identify the situation or problems and identify the mathematical methods needed to solve them</p> <p>3. Choose from a range of mathematics to find solutions</p>		30-40%
<p>Analysing</p> <p>4. Apply a range of mathematics to find solutions</p> <p>5. Use appropriate checking procedures and evaluate their effectiveness at each stage</p>	<p>a) Understand and use positive and negative numbers of any size in practical contexts</p> <p>b) Carry out calculations with numbers of any size in practical contexts, to a given number of decimal places</p> <p>c) Understand, use and calculate ratio and proportion, including problems involving scale</p> <p>d) Understand and use equivalences between fractions, decimals and percentages</p> <p>e) Understand and use simple formulae and equations involving one or two-step operations</p> <p>f) Recognise and use 2D representations of 3D objects</p> <p>g) Find area, perimeter and volume of common shapes</p> <p>h) Use, convert and calculate using metric and, where appropriate, imperial measures</p> <p>i) Collect and represent discrete and continuous data, using ICT where appropriate</p> <p>j) Use and interpret statistical measures, tables and diagrams, for discrete and continuous data, using ICT where appropriate</p>	30-40%
<p>Interpreting</p> <p>6. Interpret and communicate solutions to multi-stage practical problems in familiar and unfamiliar contexts and situations</p> <p>7. Draw conclusions and provide mathematical justifications</p>	<p>k) Use statistical methods to investigate situations</p> <p>l) Use probability to assess the likelihood of an outcome</p>	30-40%

Guidance on Delivery

Functional skills mathematics qualifications are designed to:

- Develop mathematics concepts.
- Apply concepts in practical, problem solving situations.

The assessments require learners to demonstrate their ability to represent, analyse and interpret, using numbers (including algebra at level 2), geometry and statistics within functional contexts.

Functional skills qualifications in mathematics assess the three interrelated process skills:

<p style="text-align: center;">Representing</p> <p style="text-align: center;">Selecting the mathematics and information to model a situation</p>	<p style="text-align: center;">Analysing</p> <p style="text-align: center;">Processing and using mathematics</p>	<p style="text-align: center;">Interpreting</p> <p style="text-align: center;">Interpreting and communicating the results of the analysis</p>
<ul style="list-style-type: none"> • Learners recognise that a situation has aspects that can be represented using mathematics. • Learners make an initial model of a situation using suitable forms of representation. • Learners decide on the methods, operations and tools, including information and communication technology (ICT), to use in a situation. • Learners select the mathematical information to use. 	<ul style="list-style-type: none"> • Learners use appropriate mathematical procedures. • Learners examine patterns and relationships. • Learners change values and assumptions or adjust relationships to see the effects and answers in models. • Learners find results and solutions. 	<ul style="list-style-type: none"> • Learners interpret results and solutions. • Learners draw conclusions in light of situations. • Learners consider the appropriateness and accuracy of results and conclusions. • Learners choose appropriate language and forms of presentation to communicate results and solutions.

Resources

Training

Centres may use their own, or published learner support materials in delivering the qualification. Whatever support materials centres choose to use, they should ensure that their delivery methodology adequately prepares the learner for assessment.

IQ endorses published training resources and learner support materials by submitting the materials to a rigorous and robust quality assurance process, thus ensuring such materials are relevant, valid and appropriately support the qualification.

Qualification Support Materials

IQ provides a range of support to centres delivering and assessing these qualifications. Resources include:

- Sample assessments.
- Training for those delivering and assessing functional skills.
- Teaching and learning materials.

Useful Websites

Ofqual www.ofqual.gov.uk
The regulators for Functional Skills qualifications

Joint Council of Qualifications (JCQ) www.jcq.org.uk
Regulate the access arrangements for Functional Skills

Learning and Skills Improvement Service (LSIS) tlp.excellencegateway.org.uk/tlp/fs/fs-resources
Excellence Gateway has Functional Skills materials