

# **Pearson Edexcel Functional Skills qualification in Mathematics at Level 1 (FSM01)**

# **Pearson Edexcel Functional Skills qualification in Mathematics at Level 2 (FSM02)**

## **Specification**

Edexcel Levels 1 and 2

For first teaching September 2010

Issue 5

## **Edexcel, BTEC and LCCI qualifications**

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This specification is Issue 5. Key changes are listed in the summary table on the next page. We will inform centres of any changes to this issue. The latest issue can be found on the Pearson website: [qualifications.pearson.com](http://qualifications.pearson.com)

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ISBN 9781446957684

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## **Summary of specification Issue 5 changes for: Pearson Edexcel Functional Skills qualifications in Mathematics at Level 1 and Level 2**

<b>Summary of changes made between previous Issue 4 and this current Issue 5</b>	<b>Page number</b>
All references to NQF have been removed throughout the specification	Throughout
Definition of TQT added	2
TQT value added	2
Guided learning definition updated	19

Earlier issue(s) show(s) previous changes.

If you need further information on these changes or what they mean, contact us via our website at: [qualifications.pearson.com/en/support/contact-us.html](http://qualifications.pearson.com/en/support/contact-us.html).



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## Qualification titles covered by this specification

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**Pearson Edexcel Functional Skills qualification in Mathematics at Level 1**

**Pearson Edexcel Functional Skills qualification in Mathematics at Level 2**

## Qualification purpose

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Functional Skills Mathematics qualifications are designed to give learners the skills to operate confidently, effectively and independently in education, work and everyday life. They have been created in response to employers' perceptions that many learners are not achieving a sufficiently firm grounding in the basics.

Qualifications eligible and funded for post-16-year-olds can be found on the funding Hub. The Skills Funding Agency also publishes a funding catalogue that lists the qualifications available for 19+ funding.

Centres should use the Qualification Number (QN) when they seek public funding for their learners.

These qualification titles and codes will appear on learners' certificates. Learners need to be made aware of this when they are recruited by the centre and registered with Pearson.

The QNs for the qualifications in this publication are:

Pearson Edexcel Functional Skills qualification in Mathematics at Level 1	500/8906/7
Pearson Edexcel Functional Skills qualification in Mathematics at Level 2	500/8907/9

## Qualification objectives

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The aims of these qualifications are to develop learner understanding and skills in:

- **Representing** – selecting the mathematics and information to model a situation.
- **Analysing** – processing and using mathematics.
- **Interpreting** – interpreting and communication the results of the analysis.

## **Total Qualification Time (TQT)**

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For all regulated qualifications, Pearson specify a total number of hours that it is estimated learners will require to complete and show achievement for the qualification – this is the Total Qualification Time (TQT). The TQT value indicates the size of a qualification.

Within the TQT, Pearson identifies the number of Guided Learning Hours (GLH) that we estimate a centre delivering the qualification might provide. Guided learning means activities, such as lessons, tutorials, online instruction, supervised study and giving feedback on performance, that directly involve tutors and assessors in teaching, supervising and invigilating learners. Guided learning includes the time required for learners to complete external assessment under examination or supervised conditions.

In addition to guided learning, other required learning directed by tutors or assessors will include private study, preparation for assessment and undertaking assessment when not under supervision, such as preparatory reading, revision and independent research.

The Total Qualification Time (TQT) for the Functional Skills qualification in Mathematics at Level 1 is 50 hours.

The Guided Learning Hours (GLH) for the Functional Skills qualification in Mathematics at Level 1 is 45.

The Total Qualification Time (TQT) for the Functional Skills qualification in Mathematics at Level 2 is 54 hours.

The Guided Learning Hours (GLH) for the Functional Skills qualification in Mathematics at Level 2 is 45.



# Structure of qualifications

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## Pearson Edexcel Functional Skills qualification in Mathematics at Level 1

<b>Mathematics Level 1</b>	
Externally assessed Assessment is available either onscreen or paper based Availability: please see our website for details First assessment: November 2010	<b>100% of the total qualification</b>
<b>Overview of content</b> Representing using mathematics Analysing situations mathematically Interpreting solutions to problems using mathematics Coverage of mathematical content in number, geometry and statistics	
<b>Overview of paper-based assessment</b> Three themes in each test Test time will be 1 hour and 30 minutes The total number of marks available is 48	
<b>Overview of onscreen assessment</b> Test time will be 1 hour and 30 minutes The total number of marks available is 48 Test is available on demand by arrangement with Pearson	

## Pearson Edexcel Functional Skills qualification in Mathematics at Level 2

<b>Mathematics Level 2</b>	
Externally assessed Assessment is available either onscreen or paper based Availability: please see our website for details First assessment: November 2010	<b>100% of the total qualification</b>
<b>Overview of content</b> Representing using mathematics Analysing situations mathematically Interpreting solutions to problems using mathematics Coverage of mathematical content in number, algebra, geometry and statistics	
<b>Overview of paper-based assessment</b> Three themes in each test Test time will be 1 hour and 30 minutes The total number of marks available is 48	
<b>Overview of onscreen assessment</b> Test time will be 1 hour and 30 minutes The total number of marks available is 48 Test is available on demand by arrangement with Pearson	

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# Pearson Edexcel Functional Skills qualification in Mathematics at Level 1

**Level:** 1

**Guided learning hours:** 45

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## Process skills

The Level 1 Functional Skills qualification in Mathematics assesses the following three interrelated process skills.

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

At Level 1, the skills standards and coverage and range subsume the skill standards and the indicative coverage and range at Entry 3, supporting progression from Entry 3 to Level 2.

## Skill standards

In order to pass this qualification, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the skill standards for the qualification.

The coverage and range determine the mathematical content that learners should be able to use in functional contexts in order to achieve the qualification.

**On completion of this qualification a learner should:**

<b>Skill standards</b>	<b>Weighting of assessment</b>
<b>1 Representing</b> <ul style="list-style-type: none"><li>• understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine</li><li>• identify and obtain necessary information to tackle the problem</li><li>• select mathematics in an organised way to find solutions</li></ul>	30–40%
<b>2 Analysing</b> <ul style="list-style-type: none"><li>• apply mathematics in an organised way to find solutions to straightforward practical problems for different purposes</li><li>• use appropriate checking procedures at each stage</li></ul>	30–40%
<b>3 Interpreting</b> <ul style="list-style-type: none"><li>• interpret and communicate solutions to practical problems, drawing simple conclusions and giving explanations.</li></ul>	30–40%

## Coverage and range

### A learner should be able to:

- understand and use whole numbers and understand negative numbers in practical contexts
- add, subtract, multiply and divide whole numbers using a range of strategies
- understand and use equivalences between common fractions, decimals and percentages
- add and subtract decimals up to two decimal places
- solve simple problems involving ratio, where one number is a multiple of the other
- use simple formulae expressed in words for one- or two-step operations
- solve problems requiring calculation, with common measures, including money, time, length, weight, capacity and temperature
- convert units of measure in the same system
- work out areas and perimeters in practical situations
- construct geometric diagrams, models and shapes
- extract and interpret information from tables, diagrams, charts and graphs
- collect and record discrete data and organise and represent information in different ways
- find mean and range
- use data to assess the likelihood of an outcome.

### **Assessment structure for paper-based test at Level 1**

Assessment	One external paper-based assessment.
Tasks	Three sections in each assessment. Each section has a theme.
Assessment duration	1 hour 30 minutes.
Marks	16 marks per section. 48 marks in total.
Additional information	Calculators are allowed. All coverage and range will be assessed over one year.

### **Assessment structure for onscreen test at Level 1**

Assessment	One external onscreen assessment.
Assessment duration	1 hour 30 minutes.
Marks	48 marks in total.
Additional information	Calculator is provided onscreen – no calculator may be brought to examination. All coverage and range will be assessed over one year.

### **Sampling of coverage and range**

Coverage and range of the qualification will be sampled over one year of external assessment series.

# Pearson Edexcel Functional Skills qualification in Mathematics at Level 2

**Level:** 2

**Guided learning hours:** 45

## Process skills

The Level 2 Functional Skills qualification in Mathematics assesses the following three interrelated process skills.

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

At Level 2, the skills standards and coverage and range subsume the skills standards and the indicative coverage and range at Level 1, supporting progression from Level 1.

## Skill standards

In order to pass this qualification, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the skill standards for the qualification.

The coverage and range determine the mathematical content that learners should be able to use in functional contexts in order to achieve the qualification.

**On completion of this qualification a learner should:**

<b>Skill standards</b>	<b>Weighting of assessment</b>
<b>1 Representing</b> <ul style="list-style-type: none"><li>• understand routine and non-routine problems in familiar and unfamiliar contexts and situations</li><li>• identify the situation or problems and identify the mathematical methods needed to solve them</li><li>• choose from a range of mathematics to find solutions</li></ul>	30–40%
<b>2 Analysing</b> <ul style="list-style-type: none"><li>• apply a range of mathematics to find solutions</li><li>• use appropriate checking procedures and evaluate their effectiveness at each stage</li></ul>	30–40%
<b>3 Interpreting</b> <ul style="list-style-type: none"><li>• interpret and communicate solutions to multistage practical problems in familiar and unfamiliar contexts and situations</li><li>• draw conclusions and provide mathematical justifications.</li></ul>	30–40%



## Coverage and range

### **A learner should be able to:**

- understand and use positive and negative numbers of any size in practical contexts
- carry out calculations with numbers of any size in practical contexts, to a given number of decimal places
- understand, use and calculate ratio and proportion, including problems involving scale
- understand and use equivalences between fractions, decimals and percentages
- understand and use simple formulae and equations involving one- or two-step operations
- recognise and use 2-D representations of 3-D objects
- find area, perimeter and volume of common shapes
- use, convert and calculate using metric and, where appropriate, imperial measures
- collect and represent discrete and continuous data, using information and communication technology (ICT) where appropriate
- use and interpret statistical measures, tables and diagrams, for discrete and continuous data, using information and communication technology (ICT) where appropriate
- use statistical methods to investigate situations
- use probability to assess the likelihood of an outcome.

## Assessment structure for paper-based test at Level 2

Assessment	One external paper-based assessment.
Tasks	Three sections in each assessment. Each section has a theme.
Assessment duration	1 hour 30 minutes.
Marks	16 marks per section. 48 marks in total.
Additional information	Calculators are allowed. All coverage and range will be assessed over one year.

## Assessment structure for onscreen test at Level 2

Assessment	One external onscreen assessment.
Assessment duration	1 hour 30 minutes.
Marks	48 marks in total.
Additional information	Calculator is provided onscreen – no calculator may be brought to examination. All coverage and range will be assessed over one year.

## Sampling of coverage and range

Coverage and range of the qualification will be sampled through external assessment series.

# Assessment

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## Assessment summary

The Pearson Edexcel Functional Skills qualifications in Mathematics at Levels 1 and 2 are externally assessed.

## Assessment opportunities for paper-based test

There will be up to eight assessment windows each year. Assessments are available within a five-day window. Please see our website for further details.

## Security arrangement for five-day windows

Assessment is available within a five-day window. The following requirements must be adhered to:

- the dates of the window will be published by Pearson
- test sittings must be scheduled to minimise the possibility of learners colluding
- centres must produce a schedule showing the date and time of each examination session to be held in the window. This schedule must be submitted in writing to Pearson's Compliance and Quality Services Department
- each paper must be collected in, accounted for and held securely until the end of the window
- learners may sit the test only once in each window
- teaching of the subject should be suspended for the duration of the window
- learners must sign a declaration when they sit the test to confirm they understand that they are not allowed to discuss the contents of the test until the end of the window.

## Assessment opportunities for onscreen test

The onscreen test may be taken at any time of the year by arrangement with Pearson.

## **Inclusion information for Pearson Edexcel Functional skills qualifications in Mathematics**

Learners can have access to all forms of equipment, software and practical assistance, such as a reader or a scribe, that reflect their normal way of working, provided that they 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.

### **The following access arrangements may be requested.**

- 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.

No arrangements for exemptions exist for Functional skills in Mathematics.

# Entry, awarding and reporting

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## Learner entry

Details of entry requirements, and the number of assessment opportunities, can be found in our *UK Information Manual*, which is sent to all examinations officers. The Information Manual is updated regularly and can be found on our website.

## Awarding and reporting

The awarding and certification of this qualification will comply with the requirements of the Office of the Qualifications and Examinations Regulator (Ofqual). The qualification will be awarded as a pass or fail. The result for a learner who fails to reach the minimum standard for a pass to be awarded will be recorded as U (unclassified) and will not be certificated.

## Qualification results

Learners must pass the assessment to be awarded a qualification pass.

## Cash-in code

Level 1	Paper based	Onscreen
Cash-in code	FSM01	MAT01

Level 2	Paper based	Onscreen
Cash-in code	FSM02	MAT02

## Resitting

If learners fail a qualification they may resit the assessment.

## Language of assessment

Assessment of this qualification will be available in English only. Assessment materials will be published in English only and all work submitted for examination and moderation must be produced in English.

## Malpractice and plagiarism

For up-to-date advice on malpractice and plagiarism, please refer to the Joint Council for Qualifications *Suspected Malpractice in Examinations and Assessments* document on the JCQ website ([www.jcq.org.uk](http://www.jcq.org.uk)).

## **Learner recruitment**

Pearson's access policy concerning recruitment to our qualifications is that:

- they must be available to anyone who is capable of reaching the required standard
- they must be free from barriers that restrict access and progression
- equal opportunities exist for all learners.

## **Progression**

Learners could progress from these Functional skills qualifications to:

- GCSE in Mathematics or GCSE in Statistics
- other related qualifications.

## Annexe A

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### Codes

Type of code	Use of code	Code number
Qualification Number (QN)	Each qualification title is allocated a Qualification Number (QN). This is the code to be used for all qualification funding purposes. The Ofqual QN is the number that will appear on the learner's final certification documentation.	The QNs for the qualifications in this publication are:  Level 1 – 500/8906/7  Level 2 – 500/8907/9
Cash-in codes	The cash-in code is used as an entry code to aggregate the learner's unit scores to obtain the overall grade for the qualification. Centres will need to use the entry codes only when entering learners for their qualification.	Level 1 – FSM01 paper based  Level 1 – MAT01 onscreen  Level 2 – FSM02 paper based  Level 2 – MAT02 onscreen
Entry codes	The entry codes are used to: <ul style="list-style-type: none"> <li>enter a learner for the assessment of a qualification/component</li> <li>aggregate the learner's unit scores to obtain the overall grade for the qualification.</li> </ul>	Please refer to our <i>UK Information Manual</i> , available on our website.





## **Annexe B**

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### **Glossary of qualification format terms**

All Pearson Edexcel Functional Skills qualifications have a standard format. The format is designed to give the requirements of the qualification for learners, tutors, assessors and those responsible for monitoring national standards.

Each qualification has the following sections.

### **Qualification title**

This is the formal title of the qualification that will appear on the learner's certificate.

### **Level**

All units and qualifications have a level assigned to them. The level assigned is informed by the level descriptors defined by Ofqual, the qualifications regulator.

### **GLH**

Guided Learning Hours (GLH) is the number of hours that a centre delivering the qualification needs to provide. Guided learning means activities that directly or immediately involve tutors and assessors in teaching, supervising, and invigilating learners, for example lectures, tutorials, online instruction and supervised study.

### **Cash-in code**

This is the Pearson code required to claim certification for the whole qualification after completion of all components.

### **Process skills**

Process skills require learners to represent, analyse and interpret using mathematics. The process skills are assessed through the skills standards.

### **Skill standard**

The skill standard of a qualification sets out the functional skills that learners are expected to achieve as the result of a process of learning.

### **Coverage and range**

The coverage and range specifies the mathematics content the learner should be able to apply to demonstrate a skill standard. The skill standard and coverage and range articulate the learning achievement which will be awarded at the level assigned to the qualification.

## **Assessment structure**

This includes details of the component/s of assessment and the key features of each component.

## **Sampling of coverage and range**

This includes details of how coverage and range will be sampled over assessment series.

**December 2017**

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