Developed on behalf of the Education and Training Foundation by Pye Tait Consulting in association with the Learning and Work Institute.
DRAFT Subject Content - Functional maths

Introduction:

Functional Skills qualifications are developed by awarding organisations. Each qualification will assess the relevant subject content.

The main audience for this draft and for the final, complete, Subject Content is those awarding organisations offering Functional Skills qualifications. They will use the subject content to develop their organisation’s Functional Skills specifications.

In this consultation process, awarding organisations will be providing feedback alongside other stakeholders.
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Notes for this document

This document has been through many internal drafts and three iterations. It has been informed by employer priorities, comments and suggestions via surveys from providers and teachers/tutors, early discussions with awarding organisations and subject experts, as well as informed by discussions leading up to and from the consultation on the National Adult Standards for Literacy and Numeracy. Discussions with, and input from, Ofqual, particularly at level 2, has helped with whether the material set out in the content is assessable.

Based on comments received during this consultation a final draft version will be produced. That then will be submitted to the Education and Training Foundation for further consideration.

The principles underpinning the latest draft of this document are that:

a) the material should be clear and straightforward; we have worked on the basis of trying to make it apparent what a student of Functional Skills at any level will need to know and do;

b) the content should be contained in the one document without forcing reference to other documents, aside from any technical documents required for regulation purposes;

c) as it is often non-subject specialists who teach functional skills the Education and Training Foundation has plans to develop a ‘core curriculum’ containing detailed information with exemplification on the scope of study/coverage to support teachers and learners. This could, ultimately, be linked to the subject content when it is fully finalised and complete.

Structure of this document

There are three components to the document for each level.

1. Purpose and aims:

Entry levels 1 to 3 have a common purpose and learning aim. Levels 1 and 2 have a slightly different although related common purpose and learning aims.

2. Learning outcomes for each of the five levels:

Critical descriptions of the standard of mathematical functionality required at each of the levels, making reference to skills of decision-making and reasoning as applied to problem-solving as appropriate to each level.

3. Assessable subject content – This is described within an overarching skill and three interlinked skill areas with supplementary mathematical coverage.

   o The overarching skill for Entry 1 and 2 is ‘conducting mathematical operations to solve simple, practical tasks’; for Entry 3 and Level 1 it is ‘conducting mathematical operations to solve straightforward problems’ and for Level 2 ‘conducting mathematical operations to solve complex problems’.

   o The other, interlinked skill areas are: ‘using number and the number system’; ‘common measures, shape and space’; and ‘handling information and data’.
The ‘mathematical coverage’ has a specific purpose of providing awarding organisations with parameters when designing their assessments to fit their specifications.

NB: numbering used in the ‘coverage’ sections is to help with referencing during this consultation.

A short glossary for key terms used within, and across, each skill area is provided at the end of this document.
Teaching and learning approaches to functional maths

1. Every effort should be made during teaching and learning to show the learner the connections between the topics covered in the content. An holistic approach is critical to help demonstrate the functionality and application to practical situations.

2. It is also important that young people and adults should have their horizons stretched by the approaches taken to teaching and learning in Functional Skills programmes so that contexts are less of a problem for them when it comes to assessment.

3. This means that “contexts” – should be a mixture of the familiar and the unfamiliar (as appropriate to the level being studied) the latter offering learners the crucial opportunity to learn about new areas of life and work and expose them to concepts and problems which, while not of immediate concern, may be valuable to them in later life.

4. Teaching mathematics within contexts is fundamental to the concept of functional skills. It provides a mechanism through which the learner not only learns and practises mathematical skills and processes but gains an insight into how important those skills and processes are in the world of work and life.

5. The overarching aim is that all learners of functional maths will develop behaviours such as confidence, persistence, and logical thinking through their ability and application of mathematical tools and approaches.
Functional maths – Entry level 1 to 3

Purpose

A qualification to demonstrate a sound grasp of the basics of maths skills at the appropriate level and the ability to apply mathematical thinking to solve simple problems in familiar situations. This can provide the skills for further study at Levels 1 and 2.

Learning Aim for Entry levels

To enable the learner to become confident in their use of fundamental maths skills, as described through the content, so that they can demonstrate their understanding of those skills and their application to simple, practical tasks.
Learning outcomes: Entry level 1

1. Read and understand information given such as numbers and symbols in simple graphical, numerical, and written material;
2. Read and understand simple mathematical terms appropriate to Entry 1;
3. Use numbers, measures, and simple shapes to obtain answers to simple, practical tasks; and
4. Create results which make sense and provide a simple explanation.

Assessable content for Functional maths at Entry 1 is described in terms of:

- Conducting mathematical operations to solve simple, practical tasks using numbers and the number system, measures, shape and space and information and data.

Students at Entry 1 are able to demonstrate their skills in, and across, these interlinked areas:

Conduct mathematical operations to solve simple, practical tasks: this means a learner can identify the mathematics needed to solve a simple and familiar task by looking at its features and identifying simple patterns. Students at this level can describe simple features of the task, make a plan to solve simple problems involving a limited amount of information presented in a straightforward way, and provide an explanation.

In undertaking the above a student at Entry 1 will demonstrate they can:

- Use numbers and the number system;
- Use common measures, shape and space; and
- Handle information and data.

For more detailed information on mathematical coverage see below.

<table>
<thead>
<tr>
<th>Mathematical coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Numbers and the number system – whole numbers</strong></td>
</tr>
<tr>
<td>1. read, write, order and use whole numbers to count reliably up to 20 items including zero</td>
</tr>
<tr>
<td>2. add numbers which total to 20, and subtract numbers from numbers up to 20</td>
</tr>
<tr>
<td>3. use +, – and = in practical situations to solve simple tasks</td>
</tr>
<tr>
<td>4. use whole numbers to present results</td>
</tr>
<tr>
<td><strong>Common measures, shape and space</strong></td>
</tr>
<tr>
<td>5. recognise and use coins and notes</td>
</tr>
<tr>
<td>6. use time and read digital and analogue clocks in hours</td>
</tr>
<tr>
<td>7. know the names, order and number of the days of the week, months, number of weeks and seasons of the year</td>
</tr>
<tr>
<td>8. identify, recognise and name differences between 2-D and 3-D shapes including rectangle, square, circle, cube and triangle</td>
</tr>
<tr>
<td>9. use everyday positional vocabulary including left, right, between, inside, outside, middle, below, under, above, on top</td>
</tr>
</tbody>
</table>
10. construct simple representations or diagrams using knowledge of numbers, measures or space and shape including lists with multiple items organisation

**Information and data**

11. extract simple numerical information from lists
12. sort and classify objects using a single criterion
13. describe and compare size and small numbers of items, making reference as appropriate to length, width, height, weight and capacity

**Learning outcomes: Entry level 2**

1. Read and understand information given by numbers, symbols, simple diagrams and charts in graphical, numerical, and written material;
2. Read and understand mathematical terms appropriate to Entry 2;
3. Use numbers, information, measures, and shapes to obtain answers to simple, given practical tasks;
4. Produce results that make sense to a specified task & communicate these using appropriate numbers, measures, simple diagrams and symbols.

**NB:** In interpreting the content, qualification developers and tutors should note that the content subsumes and builds upon the content at lower levels.

**Assessable content for Functional maths at Entry 2 is described in terms of:**

- Conducting mathematical operations to solve simple, practical tasks using numbers and the number system, measures, shape and space and information and data.

Students at Entry 2 are able to demonstrate their skills in, and across, these interlinked areas:

**Conduct mathematical operations to solve simple, practical tasks:** this means a learner can identify the mathematics needed to solve simple, familiar and practical tasks by looking at their features and identifying simple patterns. Students at this level can describe a number of features of a task, make a plan to solve simple tasks involving a limited amount of information presented in a straightforward way and provide an explanation.

In undertaking the above a student will demonstrate they can:

- Use numbers and the number system;
- Use common measures, shape and space; and
- Handle information and data.

- For more detailed information on mathematical coverage see below.
Mathematical coverage

### Numbers and the number system

#### Whole numbers
1. count reliably up to 50 items
2. read, write, order and compare numbers up to 200
3. add and subtract two-digit whole numbers
4. recall addition and subtraction facts to 50
5. multiply using single-digit whole numbers
6. approximate by rounding to the nearest 10
7. use and interpret +, −, ×, ÷, and = in practical situations to solve simple tasks

#### Fractions, decimals
8. use simple fractions on small numbers of items or shapes including halves and quarters
9. use simple decimals to one decimal place

### Common measures, shape and space:
10. use calculations to solve problems involving costs in pence up to one pound
11. calculate costs in whole pounds of more than one item
12. read, record and understand time displayed on analogue and 24-hour digital clocks in hours, half hours and quarter hours
13. measure and draw lengths in millimetres and centimetres and estimate and compare lengths in millimetres, centimetres, metres and kilometres
14. estimate, measure and compare weight using grams and kilograms
15. estimate, measure and compare capacity using millilitres and litres
16. read and compare positive temperatures in everyday situations
17. read and use simple scales to the nearest labelled division
18. recognise and name 2-D and 3-D shapes including cylinders, pentagons, hexagons, octagons, cuboids, pyramids and spheres
19. describe the properties of common 2-D and 3-D shapes including the number of edges, vertices and faces

### Information and data
20. extract information from lists, tables, simple diagrams and block graphs
21. make comparisons from block graphs
22. sort and classify objects using two criteria
23. take information in one format and represent the information in another
Learning outcomes: Entry Level 3

1. Read, understand and use information given by numbers, symbols, diagrams and charts used for different purposes and in different ways in graphical, numerical and written material;
2. Read and understand mathematical terms appropriate to Entry 3;
3. Make use of numbers, measures and diagrams to obtain results to simple, practical problems;
4. Generate and record results to a given level of accuracy using given methods and measures appropriate to the specified purpose;
5. Present with appropriate comment on, and interpretation of, the results using numbers, diagrams, charts and symbols;
6. Estimate and check answers to calculations.

NB: In interpreting the content, qualification developers and tutors should note that the content subsumes and builds upon the content at lower levels.

Assessable content for Functional maths at Entry level 3 is described in terms of:

- Conducting mathematical operations to solve simple, practical problems using numbers and the number system, measures, shape and space and information and data.

Students at Entry level 3 are able to demonstrate their skills in, and across, these interlinked areas:

**Conducting mathematical operations to solve simple, practical problems.** At Entry 3 students can use efficient methods in their use of numbers, common measures, shape and space and in handling information and data. They can select an operation to solve a straightforward practical task or problem, check and explain their findings and, understand and use appropriate mathematical terms at this level.

In undertaking the above a student will demonstrate they can:

- Use numbers and the number system;
- Use common measures, shape and space; and
- Handle information and data.

- For more detailed information on mathematical coverage see below.
## Mathematical coverage

### Numbers and the number system

#### Whole numbers
1. count, read, write, order and compare numbers up to 1000
2. add or subtract using three-digit numbers
3. solve practical problems involving multiplication and division by 2, 3, 4, 5 and 10
4. divide two-digit whole numbers by single-digit whole numbers and interpret remainders
5. approximate by rounding numbers less than 1000 to the nearest 10 or 100
6. recognise and continue linear sequences of numbers

#### Fractions, decimals
7. read, write and understand thirds, quarters, fifths and tenths
8. read, write and understand decimals up to two decimal places in practical contexts
9. recognise and continue linear sequences of numbers

### Common Measures, shape and space
10. estimate, calculate and compare sums of money using decimal notation
11. round sums to the nearest £1, 10p
12. read, measure and record time using am and pm
13. read time from analogue and digital clocks to the nearest 5 minutes
14. read and use common date formats
15. read, estimate, measure and compare length, capacity, weight and temperature using standard and non-standard units to the nearest labelled or unlabelled division
16. choose an appropriate measuring instruments for a given task
17. use shape and space to sort 2-D and 3-D shapes to solve practical problems using properties, e.g. lines of symmetry, side length, angles
18. read a map using coordinates and the 8 compass points

### Information and data
19. extract information from lists, tables, diagrams and simple charts
20. interpret information by making comparisons from bar charts and pictograms
21. organise and represent information in different ways so that it makes sense to others
Functional maths – Level 1 and Level 2

Purpose

*Functional Skills is a qualification for work, study and life.*

*It demonstrates a sound grasp of maths 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.*

Learning aims for Levels 1 and 2

- to demonstrate the student’s ability in mathematical skills, and their ability, through mathematical thinking and appropriate reasoning and decision making, to solve mathematical problems; and

- to enable the student to gain confidence and fluency in, and a positive attitude towards, mathematics.
Overview/summary of a level 1 functional maths student:

- Level 1 students are self-directed, and able to make independent decisions about where mathematical information and tools might be needed to solve a problem.
- They can take simple decisions about straightforward problems involving one or two steps in a mathematical context.
- They can work with information provided in a variety of formats (graphs, tables, diagrams).
- They can understand and use the concept of approximation to check the results of simple calculations.
- They can use the information to analyse and interpret in the context of the original problem with reasonable accuracy.
- They can explain results and offer reasons for their process. Their reasoning of their findings are appropriate to the evidence presented.
Learning outcomes: Level 1

1. Read and understand mathematical information and mathematical terms appropriate to this level;
2. Apply knowledge and understanding to answer, with accuracy, straightforward mathematical questions;
3. Identify suitable calculations to generate results to a given level of accuracy using methods appropriate to the specified purpose;
4. Present the results with some explanations demonstrating simple reasoning to support their results;
5. Check the sense and reasonableness of answers with some indication of use of approximation;
6. Demonstrate simple decision-making skills to solve a straightforward problem, independently identifying and selecting relevant information from given graphical, numerical, and written material.

NB: In interpreting the content, qualification developers and tutors should note that the content subsumes and builds upon the content at lower levels.
Assessable content for Functional maths at Level 1 is described in terms of:

- Conducting mathematical operations to solve straightforward problems using numbers and the number system; measures, shape and space and information and data.

Students at level 1 are able to demonstrate their skills in, and across, these interlinked areas:

**Conduct mathematical operations to solve straightforward problems:** this means a student can use efficient methods in their use of numbers, common measures, shape and space, and handling information and data to solve problems involving a single mathematical step. They can select appropriate operations to solve straightforward problems, interpret and check answers to problems. They can also use and understand mathematical terms appropriate to this level and to the detail described below.

In undertaking the above a student at level 1 will demonstrate they can:

- **Use number and the number system:** This means they can count in steps of various sizes, including simple negative numbers, read, write and understand positive whole numbers to one million. They can order and compare whole numbers of any size, and simple fractions, ratios and decimals and recognise the effect of multiplying and dividing by powers of 10 and 100. They can identify, compare and extend a range of numerical and spatial patterns, use, understand and calculate with simple fractions, decimals and percentages. They can also approximate in order to check the reasonableness of straightforward calculations. For more detailed information on mathematical coverage see below.

- **Use common measures, shape and space:** This means the student can work out simple relationships between common units of measurement, also involving position and direction using appropriate mathematical terms for this level. They can visualise, draw and describe 2-D and 3-D shapes and use properties of 2-D shapes in calculations. For more detailed information on mathematical coverage see below.

- **Handle information and data:** This means they can select, construct and interpret a range of statistical diagrams in various contexts, apply simple statistics and recognise features of charts to summarise and compare sets of data. They can recognise the probability scale and interpret simple probabilities. For more detailed information on mathematical coverage see below.

### Mathematical Coverage

<table>
<thead>
<tr>
<th>Numbers and the Number System</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. read, write, order and compare large numbers above one thousand and up to one million</td>
</tr>
<tr>
<td>2. recognise negative numbers in practical contents</td>
</tr>
<tr>
<td>3. add, subtract, multiply and divide whole numbers</td>
</tr>
<tr>
<td>4. approximate answers to multiplication of and division by whole numbers by multiples of 10 and 100</td>
</tr>
<tr>
<td>5. know, work out and use multiplication facts and make connections with division facts</td>
</tr>
<tr>
<td>6. use simple formulae expressed in words for one- or two-step operations</td>
</tr>
<tr>
<td>7. calculate the squares of one-digit and two-digit numbers</td>
</tr>
<tr>
<td>8. estimate answers to calculations using fractions</td>
</tr>
</tbody>
</table>
### Functional Skills maths subject content – consultation version 1.0

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>9.</td>
<td>read, write, order and compare common fractions and mixed numbers</td>
</tr>
<tr>
<td>10.</td>
<td>find fractions of whole number quantities or measurements</td>
</tr>
<tr>
<td>11.</td>
<td>read, write, order and compare decimals up to three decimal places</td>
</tr>
<tr>
<td>12.</td>
<td>add, subtract, multiply and divide decimals up to two decimal places</td>
</tr>
<tr>
<td>13.</td>
<td>approximate by rounding to a whole number or to one or two decimal places</td>
</tr>
<tr>
<td>14.</td>
<td>read, write, order and compare percentages in whole numbers including 10%, 25%</td>
</tr>
<tr>
<td>15.</td>
<td>work out percentages of quantities, and percentage increases and decreases in multiples of 5%, 10% and 25%</td>
</tr>
<tr>
<td>16.</td>
<td>calculate one number as a percentage of another</td>
</tr>
<tr>
<td>17.</td>
<td>extract information in decimals from tables, diagrams, charts and line graphs</td>
</tr>
<tr>
<td>18.</td>
<td>use equivalencies between common fractions, percentages and decimals</td>
</tr>
<tr>
<td>19.</td>
<td>work with simple ratio and proportions</td>
</tr>
</tbody>
</table>

#### Common measures, shape and space

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td>choose and use appropriate units and instruments to undertake measurements and comparisons including for length, weight, capacity, money, time and temperature</td>
</tr>
<tr>
<td>21.</td>
<td>convert units of measure in the same system including minutes to hours and centimetres to metres</td>
</tr>
<tr>
<td>22.</td>
<td>use simple scales on maps and drawings</td>
</tr>
<tr>
<td>23.</td>
<td>calculate the area and perimeter of simple shapes including the area of rectangles, triangles, circles and squares</td>
</tr>
<tr>
<td>24.</td>
<td>calculate the volume of cubes and cuboids</td>
</tr>
<tr>
<td>25.</td>
<td>use the mathematical properties of regular 2-D shapes including line symmetry and rotational symmetry</td>
</tr>
<tr>
<td>26.</td>
<td>draw plans and elevations of 2-D shapes including in diagrams and plans</td>
</tr>
</tbody>
</table>

#### Information and data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>27.</td>
<td>find the mean, median, mode and range of a set of raw data</td>
</tr>
<tr>
<td>28.</td>
<td>use fractions, decimals and percentages to express probability</td>
</tr>
<tr>
<td>29.</td>
<td>extract and interpret information including from tables, diagrams, charts and line graphs</td>
</tr>
<tr>
<td>30.</td>
<td>collect, organise and represent discrete data in tables, charts and diagrams</td>
</tr>
<tr>
<td>31.</td>
<td>express the likelihood of an event using decimals and percentages with the probability scale of 0 to 100</td>
</tr>
<tr>
<td>32.</td>
<td>use probability to show that some events are more likely to occur than others</td>
</tr>
<tr>
<td>33.</td>
<td>plan a series of events with up to three given criteria</td>
</tr>
<tr>
<td>34.</td>
<td>work out a rota with up to three given criteria</td>
</tr>
</tbody>
</table>
Functional maths – Level 2

Overview/summary of a level 2 functional maths student:

- Level 2 students are self-directed and able to make decisions independently about where mathematical information might be needed to solve a problem.
- They can make decisions in a mathematical context, identifying relevant information including numerical, spatial and statistical patterns.
- They can analyse and interpret the identified information in the context of the original problem with appropriate accuracy.
- They can explain results and offer reasons for what was produced.
- Their explanations are appropriate to the evidence presented.
- Through their answers they demonstrate a sound grasp of essential mathematical skills.
- They can work in unfamiliar as well as familiar situations with a variety of formats (graphs, tables, diagrams, etc.).
- They can understand and use the concept of approximation in context, as well as check the reasonableness of calculations involved in each step of a multi-step process.
Learning outcomes: Level 2

1. Read and understand mathematical information and key mathematical terms appropriate to this level and as used for different purposes;

2. Apply knowledge and understanding, with appropriate accuracy, to respond to mathematical questions;

3. Identify suitable operations and calculations to generate results to an appropriate level of accuracy, using methods and measures appropriate to the specified purpose;

4. Check the sense and reasonableness of answers through appropriate reasoning and use of approximation;

5. Make accurate, relevant and detailed observations;

6. Present and explain results clearly and accurately using graphical, numerical, and written formats appropriate to purpose and findings;

7. Demonstrate decision-making skills to organise a problem and independently select and compare relevant information from a variety of graphical, numerical, and algebraic material (or a combination of these).

NB: In interpreting the content, qualification developers and tutors should note that the content subsumes and builds upon the content at lower levels.
Assessable content for Functional maths at Level 2 is described in terms of:

- Conducting mathematical operations to solve complex problems using numbers and the number system; measures, shape and space, and information and data.

Students at level 2 are able to demonstrate their skills in, and across, these interlinked areas:

**Conduct mathematical operations to solve complex problems:** This means a student can use efficient methods in their use of number, common measures, shape and space, and in handling information and data to solve problems involving more than one mathematical step. They can select appropriate operations to solve problems. They can interpret and check answers to problems. They can also use and understand mathematical terms appropriate to this level and to the detail described below.

In undertaking the above a student will demonstrate they can:

- **Use numbers and the number system:** this means they can use numbers of any size in unfamiliar contexts, 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 apply numerical and spatial patterns for a purpose and calculate with, and convert between, numbers written as fractions, decimals, percentages and ratios. They can also use estimation in order to conduct a check of complex calculations. For more detailed information on mathematical coverage see below.

- **Use common measures, shape and space:** this means they can handle relationships between measurements of various kinds, apply angles and coordinates efficiently when involving position and direction and apply geometric properties in calculations with 2-D and 3-D shapes and understand the relationships between them. For more detailed information on mathematical coverage see below.

- **Handle information and data:** this means they can construct, interpret and evaluate a range of statistical diagrams, apply statistics to compare sets of data, solve problems and evaluate claims. They can calculate and interpret probabilities. They can calculate and interpret appropriate simple summary statistics such as mean, median and range across different contexts. They can identify patterns and trends from data as well as recognise simple correlation. For more detailed information on mathematical coverage see below.

The mathematical coverage below is there to provide awarding organisations with parameters when designing their assessments to fit their specifications.

<table>
<thead>
<tr>
<th>Mathematical coverage:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Numbers and number system</strong></td>
</tr>
<tr>
<td>1. apply the four operations to integers, decimals and simple fractions, all positive and negative to given situations</td>
</tr>
<tr>
<td>2. use place value in any number</td>
</tr>
<tr>
<td>3. read, write, order and compare positive and negative numbers of any size in a practical context</td>
</tr>
<tr>
<td>4. calculate with numbers of any size using efficient methods to a given number of decimal places</td>
</tr>
</tbody>
</table>
5. work out percentages of amounts and express one amount as a percentage of another in multi-step operations
6. approximate the multiplication and division of whole numbers
7. understand ratios and calculate using ratios and direct proportion
8. make substitutions in expressions of given formulae in words and symbols to produce results
9. use fractions to order, add/subtract and compare amounts or quantities
10. identify and know the equivalencies of fractions with decimals and percentages
11. calculate one number as a fraction of another
12. order, approximate and compare decimals to solve practical problems
13. add, subtract, multiply and divide decimals to a given number of decimal places
14. relate ratios to fractions
15. calculate interest and make comparisons using simple compound interest

**Common measures, shape and space**
16. calculate sums of money, discounts and VAT
17. convert between currencies
18. prepare budgets
19. convert between metric and imperial systems given the conversion factor in words (as a formula) in a conversion table or by conversion graph, to include length, weight, capacity and temperature
20. calculate with units between systems using conversion tables and scales, and approximate conversion factors which will be provided
21. use formulae for finding perimeters, areas and volumes of regular shapes to include rectangular and circular surfaces, cubes, cuboids, cylinders, and areas of composite shapes to include non-rectangular rooms or plots of land
22. calculate actual dimensions from scale drawings
23. use common 2-D representations of 3-D objects to include in maps and plans
24. create a scale diagram given actual measurements

**Information and Data**
25. calculate the mean, median and mode and use them as appropriate to compare sets of data to include data from frequency tables
26. find the range of a set of data and use it to describe the spread
27. work out the probability of combined events using two-way tables
28. use decimals and percentages to calculate probabilities
29. compare probabilities with the probability scale of 0 to 1 or 0% to 100%, in single, practical situations
30. collect, record and represent discrete and continuous data appropriately
31. interpret, analyse and compare data sets, tables/diagrams/statistical measures to investigate and describe situations
32. recognise trends with simple, positive and negative correlation
33. plan a series of events within given criteria
34. work out rotas within given criteria
Glossary of terms used in this document

<table>
<thead>
<tr>
<th>Straightforward problems</th>
<th>Refers to problems that students are more likely to meet in their work, studies or other activities. A straightforward problem/context is put across in a direct way/referring to a single dimensional problem. The main points are easily identifiable, and, the students should be familiar with the language/vocabulary used.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complex problems</td>
<td>Refers to multi-step problems that require planning and working through more than one connected step.</td>
</tr>
<tr>
<td>Mathematical terms</td>
<td>These are terms used in descriptions of, and in reference to, conducting mathematical operations to solve problems; number; common measures, shape and space, and information and data. They are not meant to be restrictive.</td>
</tr>
<tr>
<td></td>
<td>At level 2 <em>(to be finalised)</em> this would include: integers, spatial, coordinates, conventional terms and notations used in geometric measures such as lines, vertices, edges, right angles, polygons, discount, balance, interest rate, etc.,</td>
</tr>
<tr>
<td></td>
<td>At level 1 <em>(to be finalised)</em> this includes: convert, value, relationships, assess, Etc.</td>
</tr>
</tbody>
</table>