



## **City & Guilds Functional Skills Maths Level 2 Mock exams - How we created these papers**

### **Overview**

We have created 5 mock exam papers for Functional skills mathematics Level 2, with mark weighting and topic coverage based on the [City & Guilds sample papers](#) provided on the City & Guilds website, along with the points specified in the [City & Guilds Functional skills mathematics qualification handbook](#) and [guidance delivery](#).

Each physical paper has been designed to look like the City & Guilds paper based exams, with the mark schemes formatted and broken down to match the City & Guilds style as well.

### **Tasks and Marks**

Firstly, we have sectioned our mock papers into 2 sections across 2 papers. Across these 2 sections we have aimed to cover at least 80-90% of the 28 subject content points (SCS) from the subject content section, with at least 75% of the SCS from each of the three content areas. Furthermore, the marks for each section are broken down into the following:

- **Section 1** - 15 marks - Non-calculator  
Including a mixture of 1 or 2-3 mark questions, with at least 10 of them being 1 mark questions, with no 4 or 5-8 mark questions included in section 1.
- **Section 2** - 45 marks - Calculator  
Including a mixture of 1, 2-3, 4 and 5-8 mark questions, where the number of marks for a question increases throughout the paper in general.

Across each paper, we have aimed to have a similar coverage of 1, 2-3, 4 and 5-8 mark questions of that on the City & Guilds sample papers:

- 1 mark - 15-22 questions
- 2-3 mark - 1-5 questions
- 4 mark - 2-5 questions
- 5-8 mark - at least 3 questions

Each paper includes 25% of marks allocated to tasks that assess underpinning skills, where the first 10 marks of section 1 and the first 5 marks for Section 2 are for underpinning skills. The remaining 75% of marks are allocated to tasks that assess problem solving, as per the City & Guilds qualification handbook.

## **Distribution of Topics and Skills**

In each of the papers the distribution of the marks assigned to each of the three content areas have been allocated to match City & Guilds exams. Approximately 40-50% of the total marks are marks coming from topics in Numbers and the Number System, 30-40% from Measures, Shape and Space and 20-30% from Handling Information and Data.

The higher mark questions included in each paper have been designed to test the learner's ability to:

- Read, understand, and use mathematical information and mathematical terms;
- Address individual problems;
- 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.

## **Assessment Difficulty**

Each of the 5 papers have been designed to match the difficulty of an City & Guilds Functional Skills Maths Level 2 assessment, based on a pass mark of around 55-60%.

## Question Breakdown

For each of our 5 papers, we have shown the breakdown of topics and marks for all questions and Activities in the paper, below.

### Paper 1:

**P = problem solving**

**U = underpinning skills**

Section	Section 1		Section 2		Total
Total marks per Section	15		45		60
Problem solving (P) marks	5		40		45
Underpinning skills (U) marks	10		5		15
<b>Level 2 subject content</b>	<b>P</b>	<b>U</b>	<b>P</b>	<b>U</b>	-
L2.SCS1 - Read, write, order and compare positive and negative numbers of any size					0
L2.SCS2 - Carry out calculations with numbers up to one million including strategies to check answers including estimation and approximation		1 (Q2) 1 (Q10)	1 (Q12)		3
L2.SCS3 - Evaluate expressions and make substitutions in given formulae in words and symbols		1 (Q5)	2 (Q6)		3
L2.SCS4 - Identify and know the equivalence between fractions, decimals and percentages		1 (Q4)			1
L2.SCS5 - Work out percentages of amounts and express one amount as a percentage of another	1 (Q12)				1
L2.SCS6 - Calculate percentage change (any size increase and decrease), and original value after percentage change			2 (Q14)		2
L2.SCS7 - Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers	1 (Q12)	1 (Q7)	1 (Q10)		3
L2.SCS8 - Express one number as a fraction of another					0
L2.SCS9 - Order, approximate and compare decimals		1 (Q1)			1
L2.SCS10 - Add, subtract, multiply and divide decimals up to three decimal places	1 (Q12)	1 (Q3)	2 (Q15)		4
L2.SCS11 - Understand and calculate using ratios, direct proportion and inverse proportion			2 (Q14)		2
L2.SCS12 - Follow the order of precedence of operators, including indices					0
<b>Numbers and the Number system: Total Marks</b>					20
L2.SCS13 - Calculate amounts of money, compound interest, percentage increases, decreases and discounts including tax and simple budgeting			2 (Q10) 2 (Q12) 2 (Q14)		6
L2.SCS14 - Convert between metric and imperial units of length, weight and capacity using a) a conversion factor			1 (Q7) 3 (Q15)		4

b) a conversion graph					
L2.SCS15 - Calculate using compound measures including speed, density and rates of pay			2 (Q9) 4 (Q11)		6
L2.SCS16 - 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)			1 (Q7) 2 (Q12)		3
L2.SCS17 - 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)			1 (Q9)		1
L2.SCS18 - Calculate actual dimensions from scale drawings and create a scale diagram given actual measurements		1 (Q9)	1 (Q15)		2
L2.SCS19 - Use coordinates in 2-D, positive and negative, to specify the positions of points				1 (Q1)	1
L2.SCS20 - Understand and use common 2-D representations of 3-D objects					0
L2.SCS21 - Draw 3-D shapes to include plans and elevations				1 (Q2)	1
L2.SCS22 - Calculate values of angles and/or coordinates with 2-D and 3-D shapes		1 (Q6)		1 (Q3)	2
<b>Measures, Shape and Space: Total Marks</b>					26
L2.SCS23 - Calculate the median and mode of a set of quantities		1 (Q8)		1 (Q4)	2
L2.SCS24 - Estimate the mean of a grouped frequency distribution from discrete data			3 (Q8)		4
L2.SCS25 - Use the mean, median, mode and range to compare two sets of data			6 (Q13)		6
L2.SCS26 - Work out the probability of combined events including the use of diagrams and tables, including two-way tables					
L2.SCS27 - Express probabilities as fractions, decimals and percentages	2 (Q11)				2
L2.SCS28 - Draw and interpret scatter diagrams and recognise positive and negative correlation				1 (Q5)	1
<b>Handling Information and Data: Total Marks</b>					15

**Paper 2:****P = problem solving****U = underpinning skills**

Section	Section 1		Section 2		Total
Total marks per Section	15		45		60
Problem solving (P) marks	5		40		45
Underpinning skills (U) marks	10		5		15
<b>Level 2 subject content</b>	<b>P</b>	<b>U</b>	<b>P</b>	<b>U</b>	-
L2.SCS1 - Read, write, order and compare positive and negative numbers of any size		1 (Q3)		1 (Q5)	2
L2.SCS2 - Carry out calculations with numbers up to one million including strategies to check answers including estimation and approximation		1 (Q2) 1 (Q6)			2
L2.SCS3 - Evaluate expressions and make substitutions in given formulae in words and symbols			2 (Q7) 2 (Q14)		4
L2.SCS4 - Identify and know the equivalence between fractions, decimals and percentages		1 (Q4)	1 (Q15)		2
L2.SCS5 - Work out percentages of amounts and express one amount as a percentage of another		1 (Q7)	2 (Q14)		3
L2.SCS6 - Calculate percentage change (any size increase and decrease), and original value after percentage change			1 (Q16)	1 (Q2)	2
L2.SCS7 - Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers		1 (Q10)	1 (Q15)		2
L2.SCS8 - Express one number as a fraction of another			1 (Q15)	1 (Q4)	2
L2.SCS9 - Order, approximate and compare decimals		1 (Q9)	1 (Q15)		2
L2.SCS10 - Add, subtract, multiply and divide decimals up to three decimal places		1 (Q8)	1 (Q15)		2
L2.SCS11 - Understand and calculate using ratios, direct proportion and inverse proportion	1 (Q12)			1 (Q3)	2
L2.SCS12 - Follow the order of precedence of operators, including indices		1 (Q5)	2 (Q8)		3
<b>Numbers and the Number system: Total Marks</b>	1	9	14	4	28
L2.SCS13 - Calculate amounts of money, compound interest, percentage increases, decreases and discounts including tax and simple budgeting			5 (Q13)		5
L2.SCS14 - Convert between metric and imperial units of length, weight and capacity using a) a conversion factor b) a conversion graph			1 (Q6) 1 (Q11)		2
L2.SCS15 - Calculate using compound measures including speed, density and rates of pay			2 (Q11)		2
L2.SCS16 - Calculate perimeters and areas of 2-D shapes including triangles and circles and composite shapes including non-rectangular shapes (formulae given except	2 (Q12)				2

for triangles and circles)					
L2.SCS17 - 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)			1 (Q11) 1 (Q14)		2
L2.SCS18 - Calculate actual dimensions from scale drawings and create a scale diagram given actual measurements				1 (Q1)	1
L2.SCS19 - Use coordinates in 2-D, positive and negative, to specify the positions of points			1 (Q10)		1
L2.SCS20 - Understand and use common 2-D representations of 3-D objects		1 (Q1)			1
L2.SCS21 - Draw 3-D shapes to include plans and elevations	2 (Q11)				2
L2.SCS22 - Calculate values of angles and/or coordinates with 2-D and 3-D shapes			1 (Q10)		1
<b>Measures, Shape and Space: Total Marks</b>					19
L2.SCS23 - Calculate the median and mode of a set of quantities			2 (Q9)		2
L2.SCS24 - Estimate the mean of a grouped frequency distribution from discrete data			1 (Q16)		1
L2.SCS25 - Use the mean, median, mode and range to compare two sets of data			3 (Q16)		3
L2.SCS26 - Work out the probability of combined events including the use of diagrams and tables, including two-way tables			3 (Q12)		3
L2.SCS27 - Express probabilities as fractions, decimals and percentages			1 (Q12)		1
L2.SCS28 - Draw and interpret scatter diagrams and recognise positive and negative correlation			2 (Q16)		2
<b>Handling Information and Data: Total Marks</b>					12

**Paper 3:****P = problem solving****U = underpinning skills**

Section	Section 1		Section 2		Total
Total marks per Section	15		45		60
Problem solving (P) marks	5		40		45
Underpinning skills (U) marks	10		5		15
<b>Level 2 subject content</b>	<b>P</b>	<b>U</b>	<b>P</b>	<b>U</b>	-
L2.SCS1 - Read, write, order and compare positive and negative numbers of any size	1(Q11)	1(Q4)	1(Q9)		3
L2.SCS2 - Carry out calculations with numbers up to one million including strategies to check answers including estimation and approximation		1(Q6)	1(Q6) 1(Q8) 1(Q14)	1(Q4)	5
L2.SCS3 - Evaluate expressions and make substitutions in given formulae in words and symbols		1(Q5)	1(Q7)		2
L2.SCS4 - Identify and know the equivalence between fractions, decimals and percentages		1(Q10)			1
L2.SCS5 - Work out percentages of amounts and express one amount as a percentage of another			2(Q6) 1(Q8)	1(Q3)	4
L2.SCS6 - Calculate percentage change (any size increase and decrease), and original value after percentage change				1(Q1)	1
L2.SCS7 - Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers					0
L2.SCS8 - Express one number as a fraction of another		1(Q2)		1(Q5)	2
L2.SCS9 - Order, approximate and compare decimals					0
L2.SCS10 - Add, subtract, multiply and divide decimals up to three decimal places			1(Q14)		1
L2.SCS11 - Understand and calculate using ratios, direct proportion and inverse proportion			2(Q7)		2
L2.SCS12 - Follow the order of precedence of operators, including indices		1(Q9)			1
<b>Numbers and the Number system: Total Marks</b>					22
L2.SCS13 - Calculate amounts of money, compound interest, percentage increases, decreases and discounts including tax and simple budgeting			5(Q10) 1(Q14)		6
L2.SCS14 - Convert between metric and imperial units of length, weight and capacity using a) a conversion factor b) a conversion graph	1(Q11) 2(Q12)		2(Q8)	1(Q11)	5
L2.SCS15 - Calculate using compound measures including speed, density and rates of pay			5(Q11)		5
L2.SCS16 - Calculate perimeters and areas of 2-D shapes including triangles and circles and composite shapes including non-rectangular shapes (formulae given except			3(Q14)		3

for triangles and circles)					
L2.SCS17 - 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)					0
L2.SCS18 - Calculate actual dimensions from scale drawings and create a scale diagram given actual measurements	1(Q12)				1
L2.SCS19 - Use coordinates in 2-D, positive and negative, to specify the positions of points		1(Q3)			1
L2.SCS20 - Understand and use common 2-D representations of 3-D objects		1(Q1)			1
L2.SCS21 - Draw 3-D shapes to include plans and elevations		1(Q7)			1
L2.SCS22 - Calculate values of angles and/or coordinates with 2-D and 3-D shapes					0
<b>Measures, Shape and Space: Total Marks</b>					<b>23</b>
L2.SCS23 - Calculate the median and mode of a set of quantities				1(Q2)	1
L2.SCS24 - Estimate the mean of a grouped frequency distribution from discrete data			3(Q9)		3
L2.SCS25 - Use the mean, median, mode and range to compare two sets of data			5(Q12)		5
L2.SCS26 - Work out the probability of combined events including the use of diagrams and tables, including two-way tables					0
L2.SCS27 - Express probabilities as fractions, decimals and percentages		1(Q8)			1
L2.SCS28 - Draw and interpret scatter diagrams and recognise positive and negative correlation			5(Q13)		5
<b>Handling Information and Data: Total Marks</b>					<b>15</b>



**Paper 4:****P = problem solving****U = underpinning skills**

<b>Section</b>	<b>Section 1</b>		<b>Section 2</b>		<b>Total</b>
Total marks per Section	15		45		60
Problem solving (P) marks	5		40		45
Underpinning skills (U) marks	10		5		15
<b>Level 2 subject content</b>	<b>P</b>	<b>U</b>	<b>P</b>	<b>U</b>	-
L2.SCS1 - Read, write, order and compare positive and negative numbers of any size		1(Q2)			1
L2.SCS2 - Carry out calculations with numbers up to one million including strategies to check answers including estimation and approximation		1(Q1)			1
L2.SCS3 - Evaluate expressions and make substitutions in given formulae in words and symbols		1(Q8) 1(Q9)	3(Q9)		5
L2.SCS4 - Identify and know the equivalence between fractions, decimals and percentages					0
L2.SCS5 - Work out percentages of amounts and express one amount as a percentage of another				1(Q2)	1
L2.SCS6 - Calculate percentage change (any size increase and decrease), and original value after percentage change			1(Q9) 2(Q13) 2(Q14)		5
L2.SCS7 - Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers			1(Q14)	1(Q3)	2
L2.SCS8 - Express one number as a fraction of another					0
L2.SCS9 - Order, approximate and compare decimals					0
L2.SCS10 - Add, subtract, multiply and divide decimals up to three decimal places				1(Q1) 1(Q5)	2
L2.SCS11 - Understand and calculate using ratios, direct proportion and inverse proportion	3(Q12)				3
L2.SCS12 - Follow the order of precedence of operators, including indices					0
<b>Numbers and the Number system: Total Marks</b>					20
L2.SCS13 - Calculate amounts of money, compound interest, percentage increases, decreases and discounts including tax and simple budgeting			3(Q6) 5(Q11) 2(Q14)		10
L2.SCS14 - Convert between metric and imperial units of length, weight and capacity using a) a conversion factor b) a conversion graph			2(Q10)		2
L2.SCS15 - Calculate using compound measures including speed, density and rates of pay			3(Q10)		3
L2.SCS16 - Calculate perimeters and areas of 2-D shapes including triangles and circles and composite shapes		1(Q3)			1

including non-rectangular shapes (formulae given except for triangles and circles)					
L2.SCS17 - 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)		1(Q10)	2(Q8)		3
L2.SCS18 - Calculate actual dimensions from scale drawings and create a scale diagram given actual measurements		1(Q4)			1
L2.SCS19 - Use coordinates in 2-D, positive and negative, to specify the positions of points			1(Q8)		1
L2.SCS20 - Understand and use common 2-D representations of 3-D objects			1(Q8)		1
L2.SCS21 - Draw 3-D shapes to include plans and elevations		1(Q5)			1
L2.SCS22 - Calculate values of angles and/or coordinates with 2-D and 3-D shapes		1(Q7)			1
<b>Measures, Shape and Space: Total Marks</b>					24
L2.SCS23 - Calculate the median and mode of a set of quantities			1(Q14)	1(Q4)	2
L2.SCS24 - Estimate the mean of a grouped frequency distribution from discrete data			3(Q13)		3
L2.SCS25 - Use the mean, median, mode and range to compare two sets of data					0
L2.SCS26 - Work out the probability of combined events including the use of diagrams and tables, including two-way tables	2(Q11)		5(Q12)		7
L2.SCS27 - Express probabilities as fractions, decimals and percentages		1(Q6)			1
L2.SCS28 - Draw and interpret scatter diagrams and recognise positive and negative correlation			3(Q7)		3
<b>Handling Information and Data: Total Marks</b>					16

**Paper 5:****P = problem solving****U = underpinning skills**

Section	Section 1		Section 2		Total
Total marks per Section	15		45		60
Problem solving (P) marks	5		40		45
Underpinning skills (U) marks	10		5		15
<b>Level 2 subject content</b>	<b>P</b>	<b>U</b>	<b>P</b>	<b>U</b>	-
L2.SCS1 - Read, write, order and compare positive and negative numbers of any size			1(Q13) 1(Q11)		1
L2.SCS2 - Carry out calculations with numbers up to one million including strategies to check answers including estimation and approximation					0
L2.SCS3 - Evaluate expressions and make substitutions in given formulae in words and symbols		1(Q1) 1(Q10)		1(Q5)	3
L2.SCS4 - Identify and know the equivalence between fractions, decimals and percentages		1(Q8)			1
L2.SCS5 - Work out percentages of amounts and express one amount as a percentage of another		1(Q2)			1
L2.SCS6 - Calculate percentage change (any size increase and decrease), and original value after percentage change			3(Q13)		3
L2.SCS7 - Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers		1(Q3)			1
L2.SCS8 - Express one number as a fraction of another		1(Q5)			1
L2.SCS9 - Order, approximate and compare decimals				1(Q3)	1
L2.SCS10 - Add, subtract, multiply and divide decimals up to three decimal places		1(Q7) 1(Q9)	1(Q7) 1(Q12)		4
L2.SCS11 - Understand and calculate using ratios, direct proportion and inverse proportion			1(Q7) 2(Q8) 3(Q11)		6
L2.SCS12 - Follow the order of precedence of operators, including indices	1(Q12)				1
<b>Numbers and the Number system: Total Marks</b>					24
L2.SCS13 - Calculate amounts of money, compound interest, percentage increases, decreases and discounts including tax and simple budgeting			1(Q8) 5(Q14) 1(Q15)		7
L2.SCS14 - Convert between metric and imperial units of length, weight and capacity using a) a conversion factor b) a conversion graph	1(Q14)		1(Q9) 2(Q14)		4
L2.SCS15 - Calculate using compound measures including speed, density and rates of pay			2(Q9)		2
L2.SCS16 - Calculate perimeters and areas of 2-D shapes including triangles and circles and composite shapes		1(Q6)	1(Q15)		2

including non-rectangular shapes (formulae given except for triangles and circles)					
L2.SCS17 - 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)	1(Q14)				1
L2.SCS18 - Calculate actual dimensions from scale drawings and create a scale diagram given actual measurements			1(Q15)		1
L2.SCS19 - Use coordinates in 2-D, positive and negative, to specify the positions of points			1(Q6)		1
L2.SCS20 - Understand and use common 2-D representations of 3-D objects					0
L2.SCS21 - Draw 3-D shapes to include plans and elevations				1(Q4)	1
L2.SCS22 - Calculate values of angles and/or coordinates with 2-D and 3-D shapes	1(Q11)				1
<b>Measures, Shape and Space: Total Marks</b>					20
L2.SCS23 - Calculate the median and mode of a set of quantities				1(Q1)	1
L2.SCS24 - Estimate the mean of a grouped frequency distribution from discrete data			3(Q11)		3
L2.SCS25 - Use the mean, median, mode and range to compare two sets of data			6(Q16)		6
L2.SCS26 - Work out the probability of combined events including the use of diagrams and tables, including two-way tables		1(Q4)	3(Q12)		4
L2.SCS27 - Express probabilities as fractions, decimals and percentages	1(Q13)				1
L2.SCS28 - Draw and interpret scatter diagrams and recognise positive and negative correlation				1(Q2)	1
<b>Handling Information and Data: Total Marks</b>					16