



# **NCFE Level 1 Functional Skills Qualification in Mathematics (603/5055/6)**

Mark scheme: P001753

v1.5 Post refresher standardisation

# Examiner Mark Scheme Guidance

## Information

This guidance is intended to support NCFE examiners in the valid, reliable and consistent application of the relevant mark scheme version, against learner evidence generated during their external assessment.

This mark scheme provides:

- the total marks available for each question
- the subject content reference for each mark
- example process/methods and evidence of the types of responses expected for each mark
- (once confirmed) the pass mark for the relevant assessment version.

This mark scheme **must** be used for paper-based and online marking of the assessment version indicated.

## Instructions and guidance on application

- All learners must receive the same treatment and should be marked fairly. Examiners must mark the first learner in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Learners must be rewarded for what they have shown they can do rather than penalised for things they have not done.
- Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Half marks must not be awarded.
- Examiners should be prepared to award zero marks if the learner's response is not worthy of credit according to the mark scheme.
- The mark scheme is a working document and may be added to at the standardisation to reflect valid alternative answers given by a learner.
- When in doubt regarding the application of the mark scheme to a learner's response, the Chief Examiner must be consulted.

This mark scheme provides the following information:

- section and activity information
- question number
- total marks available per question (top row, shaded) followed by
- attribution of individual marks per question
- problem solving (PS) and underpinning skill (UPS) attribution
- process/method or answers, as well as additional or alternative evidence; indicative of the subject content (SC) attribution
- any additional guidance, as required.

To support the valid, reliable and consistent marking of learner evidence, the following abbreviations are applied throughout the mark scheme:

Annotation	Explanation and use
FT	Follow through marks are applied when there are earlier arithmetic mistakes in the method.

<b>OE</b>	Or equivalent marks are available for the justification of the answer being presented in a different form to the mark scheme i.e. 0.5 or $\frac{1}{2}$ .
<b>CAO</b>	Correct answer only.
<b>Their</b>	'Their' refers to the learners' own derived values.
<b>Seen</b>	Seen refers to the requirement to see the stated value in the learner's response or working out.
<b>Imp</b>	Implied refers to the learner's response implying correct working out used but not seen.
<b>Brackets</b>	Indicates units are not required on final answers or for answers seen within working.
<b>BOD</b>	Benefit of doubt where learner handwriting may be difficult to interpret but previous working may indicate correct final answer.
<b>Shaded</b>	Indicates requirements for full marks to be awarded.
<b>Coloured SC box</b>	<b>On-screen only:</b> indicates where SC ref will appear out of order in the Learning Outcomes marking screen

### Version Control

Mark schemes are subject to version control. Examiners **must** ensure they have access to the latest version following each standardisation event.

Over time mark schemes will incorporate additional evidence captured and confirmed during standardisation events. Any additional evidence criteria will be captured in colour-coded text applicable to the dated standardisation event.

### Recording of marks

*Paper-based:* Individual marks should be annotated in the 'Examiner' column in the learner script, added up and recorded at the end of each activity. The overall marks awarded for each learner should be clearly and legibly recorded in the grid on the front of the learner script.

*Online:* Onscreen marking tools (i.e. ticks, crosses) marks should be applied to indicate application throughout the learner script, in addition to marks being recorded numerically within the corresponding 'Learning Outcomes' box, indicated by the relevant Subject Content reference.


<b>Annotation</b>	<b>Explanation and use</b>
<b>Tick</b>	Used to indicate correct values/method or final answer.
<b>Red highlight</b>	Used to indicate where the learner has made an error in either the value used or an incorrect calculation.
<b>Red line box</b>	Used to indicate where the learner may have made an error that has resulted in benefit of doubt being applied i.e. transposition of figures but previous working clearly shows otherwise.

Paper number: P001753			Version: 1.5	Pass mark: 36	
<b>(Section A) Activity 1: Ironing (Non-calculator Test)</b>					
Q	Marks	UPS / PS	Process and Answer	Additional or Alternative Evidence (with guidance)	SC
1 (a)	1	UPS	16.5(0)	CAO	N3a
1 (b)	3	PS	(£)132.30	Award 3 marks if correct answer given	
	<b>Alternative method 1</b>				
	1		0.25 OR 290 OR 0.25 + 2.9 or 3.15 OR 25 + 290 or 315	OE any converted value or correct method to sum amounts in consistent units	M20d
	1		Their 3.15 × 42 or (£)132.3(0)	OE in pence Their 3.15 or 315 must come from correct method	N17
	1		(£)132.30	CAO 2dp required	N11b
	<b>Alternative method 2</b>				
	1		2.9 × 42 and 25 × 42 or 121.8 and 1050	OE any full correct method	N17
	1		Their 121.8 + (their 1050 ÷ 100) OR their 121.8 × 100 + their 1050 or 13 230 or (£)132.3(0)	OE their values must come from correct method Implies 1 <sup>st</sup> mark	M20d
	1		(£)132.30	CAO 2dp required	N11b
	1 (c)	2	UPS	See below	
1			68 and 37	CAO	N12
1			420	Do not accept 419 or 420 from rounding after calculation 420 must come from correct rounding. Award N15 mark only for 420 without working Accept 418.8 from use of 68.0 and 36.7	N15

<b>1 (d)</b>	<b>3</b>	<b>PS</b>	144 (°F)	Award 3 marks if correct answer given	
	1		140 × 1.8 + 32 OR (140 – 32) ÷ 1.8 OR (140 – ((140 – 32) ÷ 1.8)) × 1.8	OE Any partial or full correct method that would result in a full correct answer ie 140 × 1.8 or 140 – 32	N5
	1		252 + 32 or 284 (°F) OR 60 (°C)	OE their values must come from correct partial or full method 252 + 32 or 284 or 60 implies 1 <sup>st</sup> mark	N11b
	1		144 (°F)	CAO	N5
<b>1 (e)</b>	<b>1</b>	<b>UPS</b>	acute	CAO	M24c
<b>1 (f)</b>	<b>5</b>	<b>PS</b>	See below		
	<b>Alternative method 1</b>				
	1		400 ÷ 1000 or 0.4 OR 3 × 400 ÷ 1000 or 1.2 OR 300 ÷ 1000 or 0.3 OR 2.4 × 1000 or 2400	OE Any correct method to convert a given capacity	M20c
	1		Their 2400 ÷ 300 or 8 OR Their 2400 ÷ 400 or 6 OR Their 2.4 ÷ 0.3 or 8 OR Their 2.4 ÷ 0.4 or 6	OE Any full correct method to find number of cans for either option 8 or 6 implies 1 <sup>st</sup> mark	M20c
	1		Their 8 × 1.50 or 12	OE Any full correct method 12 implies 2 <sup>nd</sup> mark	N17
	1		Their 12 × 0.8 or 9.6 OR Their 12 – (12 × 0.2) or 9.6 OR Their 12 – 2.4 or 9.6	OE Any full correct method Their 12 must come from correct method to find number of cans 9.6 implies 2 <sup>nd</sup> and 3 <sup>rd</sup> mark Allow this mark only for 6 × 0.8 or 4.8	M19
	1		40p or £0.40	CAO OE Award 1 mark for 40p seen without working Do not award if £0.40p seen	M19

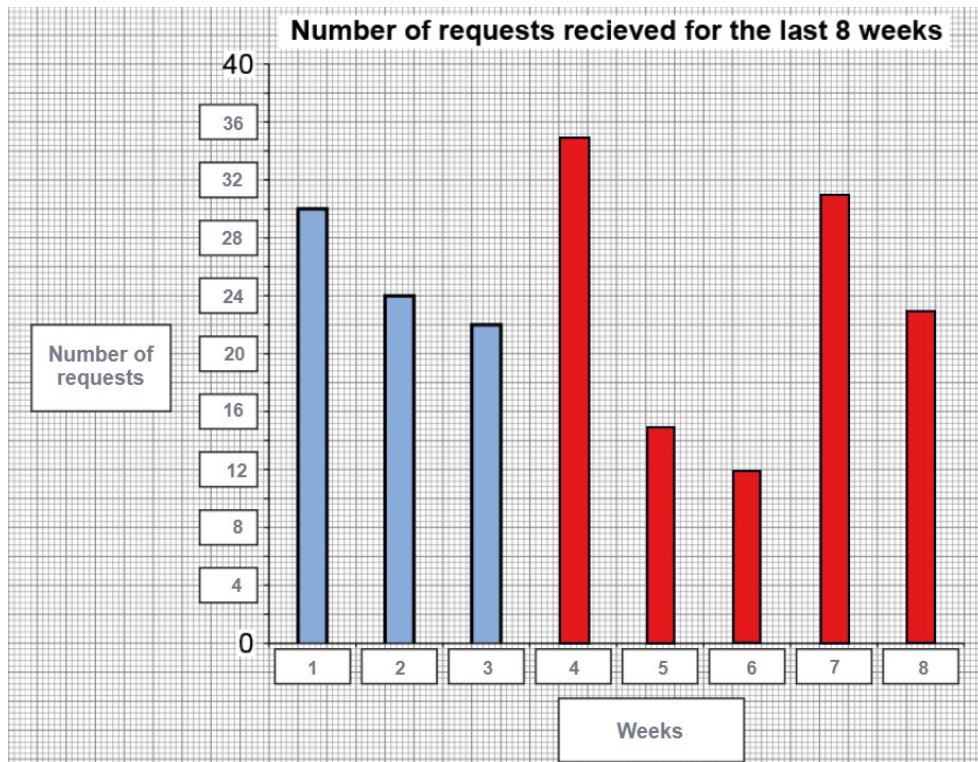
<b>Alternative method 2</b>				
1		400 ÷ 1000 or 0.4 OR 3 × 400 ÷ 1000 or 1.2 OR 300 ÷ 1000 or 0.3 OR 2.4 × 1000 or 2400	OE Any correct method to convert a given capacity	M20c
1		Their 2400 ÷ 300 or 8 OR Their 2400 ÷ 400 or 6 OR Their 2.4 ÷ 0.3 or 8 OR Their 2.4 ÷ 0.4 or 6	OE Any full correct method to find number of cans for either option 8 or 6 implies 1 <sup>st</sup> mark	M20c
1		1.5 × 0.8 or 1.2 OR 1.5 – (1.5 × 0.2) or 1.2 OR 1.5 – 0.3 or 9.6	OE Any full correct method	M19
1		Their 1.2 × 8 or 9.6	OE Any full correct method Their 1.2 must come from correct method to find % discount 9.6 implies 1 <sup>st</sup> three marks Allow this mark only for 1.2 × 4 or 4.8	N17
1		40p or £0.40	CAO OE Award 1 mark for 40p seen without working Do not award if £0.40p seen	M19

<b>(Section B) Activity 2: Hospital volunteers (Calculator Test)</b>					
<b>Q</b>	<b>Marks</b>	<b>UPS / PS</b>	<b>Process and Answer</b>	<b>Additional or Alternative Evidence (with guidance)</b>	<b>SC</b>
<b>2 (a)</b>	<b>2</b>	<b>PS</b>	Yes AND 320 (m) OR Yes AND 10 (cm) OR Yes AND (1 cm represents) 50 (m)	Award 2 marks if correct answer given	
	1		8 × 40 or 320 OR 400 ÷ 40 or 10 OR 400 ÷ 8 or 50	OE any full correct method	M21
	1		Yes AND 320 (m) OR Yes AND 10 (cm) OR Yes AND (1 cm represents) 50 (m)	OE Yes supported by correct working	M21

2 (b)	1	UPS		CAO Mark intention	M24b
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2 (c)	4	PS	See below	Award 4 marks for fully correct line graph	
	1		Linear scale from 4 to 36		H27c
	1		Both axes correctly labelled AND horizontal axis indicated 1 to 8	Any appropriate labels eg number or requests	H27c
	1		At least 3 bars correctly drawn	Scale must be correct	H27c
	1		All bars correctly drawn 35, 15, 12, 31, 23	Scale must be correct	H27c

Additional Guidance:


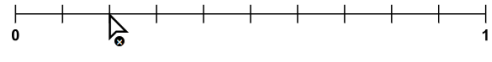


2 (d)	4	PS	30	Award 4 marks if correct answer given	
<b>Alternative method 1</b>					
	1		$(30 + 24 + 22 + 35 + 15 + 12 + 31 + 23) \div 8$ or $192 \div 8$	OE any full correct method	H29a

	1		24	CAO implies 1 <sup>st</sup> mark	H29a										
	1		$1.25 \times \text{their } 24$	OE Any full correct method Their 24 must be between 12 and 35 Accept use of median of 23.5 or range of 23	N14										
	1		30	FT the correct answer to $1.25 \times \text{their } 24$ , their 24 must be from correct method for mean	N14										
<b>Alternative method 2</b>															
	1		Eg $31 \times 1.25$ or 38.75 AND $23 \times 1.25$ or 28.75	Any pair of requests times 1.25	N14										
	1		$(30 + 24 + 22 + 35 + 15 + 12 + 31 + 23) \times 1.25$ or 240	OE Any full correct method 240 implies 1 <sup>st</sup> mark	N14										
	1		Their $240 \div 8$	Their 240 from correct method	H29a										
	1		30	FT the correct answer to their $240 \div 8$	H29a										
<b>2 (e)</b>	<b>2</b>	<b>UPS</b>	See below	Award 2 marks for correctly completed table											
	1		frequencies sum to 20 OR at least 2 frequencies correct	Three incorrect frequencies which sum to 20 OR at least 2 correct frequencies	H28a										
	1		Table fully correct		H28a										
Additional Guidance: 6, 13, 1															
<table border="1"> <thead> <tr> <th>Length of track</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>2m 0s to 2m 59s</td> <td>6</td> </tr> <tr> <td>3m 0s to 3m 59s</td> <td>13</td> </tr> <tr> <td>4m 0s to 4m 59s</td> <td>1</td> </tr> <tr> <td><b>Total</b></td> <td>20</td> </tr> </tbody> </table>						Length of track	Frequency	2m 0s to 2m 59s	6	3m 0s to 3m 59s	13	4m 0s to 4m 59s	1	<b>Total</b>	20
Length of track	Frequency														
2m 0s to 2m 59s	6														
3m 0s to 3m 59s	13														
4m 0s to 4m 59s	1														
<b>Total</b>	20														
<b>2 (f)</b>	<b>2</b>	<b>PS</b>	4.5 (hours)	Award 2 marks if correct answer given											
	1		$12 \times 3 \div 8$	OE Any full correct method	N9										
	1		4.5 (hours)	OE eg $4 \frac{1}{2}$ hours	N9										



Activity 3: Pond (Calculator Test)					
Q	Marks	UPS / PS	Process and Answer	Additional or Alternative Evidence (with guidance)	SC
3 (a)	5	PS	516 (litres)	Award 5 marks if correct answer given	
	<b>Alternative method 1</b>				
	1		$150 \times 90 \times 45$ or 607 500 (cm <sup>3</sup> )	OE any full correct method Accept working in any consistent units	M23
	1		their 607 500 $\div$ 1000 or 607.5 (litres)	OE their 607 500 must come from correct method for volume and correct method for conversion to litres 607.5 implies first mark	N5
	1		$0.85 \times$ their 607.5	OE Any full correct method Their 607.5 must come from correct method for volume Allow $0.85 \times 607\ 500$	N14
	1		516.375 (litres)	CAO Implies 1 <sup>st</sup> three marks	M23
	1		516 (litres)	FT their 516.375 from correct methods	N12
	<b>Alternative method 2</b>				
	1		$150 \times 90 \times 45$ or 607 500 (cm <sup>3</sup> )	OE any full correct method Accept working in any consistent units	M23
	1		$0.85 \times$ their 607 500 or 516 375	OE Any full correct method Their 607 500 must come from correct method for volume in cm <sup>3</sup> 516 375 implies 1 <sup>st</sup> mark	N14
	1		Their 516 375 $\div$ 1000 or 516(.375)	their 516 375 must come from correct methods	N5
	1		516.375 (litres)	CAO Implies 1 <sup>st</sup> three marks	M23
	1		516 (litres)	FT their 516.375 from correct methods	N12
	<b>Alternative method 3</b>				
	1		0.85 $\times$ 150 or 127.5 OR 0.85 $\times$ 90 or 76.5 OR 0.85 $\times$ 45 or 38.25	OE any full correct method	N14
	1		Their 127.5 $\times$ 90 $\times$ 45 OR 150 $\times$ their 76.5 $\times$ 45 OR 150 $\times$ 90 $\times$ their 38.25 or 516 375	OE Any full correct method Their 127.5 or their 76.5 or their 38.25 must come from correct method 516 375 implies 1 <sup>st</sup> mark	M23
	1		Their 516 375 $\div$ 1000 or 516(.375)	Their 516 375 must come from correct methods	N5

	1		516.375 (litres)	CAO Implies 1 <sup>st</sup> three marks	M23
	1		516 (litres)	FT their 516.375 from correct methods	N12
<b>3 (b)</b>	<b>4</b>	<b>PS</b>	See below	Award 4 marks if one of the correct answers given supported by correct working	
<b>Alternative method 1</b>					
	1		$1.5 \times 0.9$ or $1.35$ (m <sup>2</sup> )	OE Any full correct method Accept if works in cm or mm	M22a
	1		Their $1.35 \times 25$ or $33.75$ (cm)	OE Any full correct method Their 1.35 must be from correct method 33.75 implies 1 <sup>st</sup> mark	N17
	1		Their $33.75 \div 5$ or $6.75$ (fish) OR $8 \times 5$ or $40$	OE Any full correct method Their 33.75 must be from correct methods $6(.75)$ implies 1 <sup>st</sup> two marks	N17
	1		No AND $6.75$ or $6$ (fish) OR No AND $33.75$ and $40$	OE No supported by correct working	N17
<b>Alternative method 2</b>					
	1		$8 \times 5$ or $40$ (cm)	Any full correct method to find total length of 8 fish	M22a
	1		Their $40 \div 25$ or $1.6$ (m <sup>2</sup> )	Any full correct method to find surface area needed for 8 fish $1.6$ implies 1 <sup>st</sup> mark	N17
	1		$1.5 \times 0.9$ or $1.35$ (m <sup>2</sup> ) OR $1.6 \div 0.9$ or $1.77\dots$ (m) OR $1.6 \div 1.5$ or $1.06\dots$ (m)	Any full correct method to find area or compare dimensions $1.77\dots$ or $1.06\dots$ implies 1 <sup>st</sup> two marks	N17
	1		No and $1.6$ and $1.35$ OR No and $1.7(7\dots)$ (m) or $1.8$ (m) OR No and $1.0(6\dots)$ (m) or $1.1$ (m)	OE No supported by correct working	N17
<b>3 (c)</b>	<b>2</b>	<b>PS</b>	840 (cm)	Award 2 marks if correct answer given	
	1		$2(180 + 30 + 30 + 120 + 30 + 30)$	OE Any full correct method for perimeter	M22b
	1		840 (cm)	CAO OE	M22b
<b>3 (d)</b>	<b>2</b>	<b>UPS</b>		Award 2 marks if correct answer given	
	1		$\frac{1}{5}$	OE	H31
	1			FT their probability if between 0 and 1	H30a
<b>3 (e)</b>	<b>1</b>	<b>UPS</b>	9	Do not award for - 9	N2

<b>3 (f)</b>	<b>1</b>	<b>UPS</b>	$1\frac{3}{4}$	Allow $\frac{7}{4}$ or 1.75 Accept 1 and 3 out of 4 or 1 and 3 over 4 or 7 out of 4 or 7 over 4	N8a
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**Activity 4: Buying and selling (Calculator Test)**

<b>Q</b>	<b>Marks</b>	<b>UPS / PS</b>	<b>Process and Answer</b>	<b>Additional or Alternative Evidence (with guidance)</b>	<b>SC</b>
<b>4 (a)</b>	<b>1</b>	<b>UPS</b>	(£)21	CAO	H29b
<b>4 (b)</b>	<b>2</b>	<b>PS</b>	Decrease and 0.25 and 0.3 OR Decrease and $\frac{5}{20}$ and $\frac{6}{20}$ OR Decrease and 25(%) and 30(%)	Award 2 marks if correct answer given	
	<b>1</b>		0.25 and 0.3 OR $\frac{5}{20}$ and $\frac{6}{20}$ OR 25(%) and 30(%)	OE conversions that allow direct comparison	H30b
	<b>1</b>		Decrease and 0.25 and 0.3 OR Decrease and $\frac{5}{20}$ and $\frac{6}{20}$ OR Decrease and 25(%) and 30(%)	OE decrease supported by correct working	H30b
<b>4 (c)</b>	<b>5</b>	<b>PS</b>	See below	Award 5 marks if correct answer given	
	<b>1</b>		$0.8 \times 400$ or 320 OR $0.9 \times 500$ or 450	OE Any full correct method	N14
	<b>1</b>		$0.8 \times 400 \times 18$ or 5760 OR $0.9 \times 500 \times 25$ or 11 250	OE Any full correct method 5760 or 11250 imply 1 <sup>st</sup> mark	N17
	<b>1</b>		17 010	CAO	N14
	<b>1</b>		$0.35 \times (4000 + 8000)$ or 4200 OR $1.35 \times (4000 + 8000)$ or 16200 OR their $(17010 - 4000 - 8000) \div (4000 + 8000) (\times 100)$ or 0.4175 or 41.75(%) OR their $17010 \div (4000 + 8000) (\times 100)$ or 1.4175 OR 141.75(%) OR their $17010 \div 1.35$ or 12 600	OE Any full correct method 0.4175 or 41.75 or 1.4175 or 141.75 or 12 600 implies 1 <sup>st</sup> three marks FT their value of 17 010 from correct methods Finding one quantity as a percentage of another or using reverse percentage is not expected at Level 1 but award mark if seen	N14

	1		Yes and (£)4200 and (£)5010 OR Yes and (£)16 200 and 17 010 OR Yes and 41(.75 %) OR 0.41(75) and 0.35 OR Yes and 141(.75) and 135 OR 1.41(75) and 1.35 OR Yes and (£)12 600 and (£)12 000	OE Yes supported by correct working FT their values from correct methods	N13
4 (d)	2	UPS	0.4 0.375 0.225 in correct order	Award 2 marks if correct answer given	
	1		0.375 and 0.4 and 0.225	CAO	N16
	1		0.4 0.375 0.225 in correct order	FT their three decimal values Allow use of fractions once decimal values seen	N10
4 (e)	2	PS	Rectangle in the correct proportions, either orientation.	Award 2 marks if correct answer given	
	1		Any rectangle drawn	Mark intention	M24a
	1		Rectangle with length $1.6 \times$ their width in either orientation	Mark intention	M24a
4 (f)	3	PS	(£)506.80	Award 3 marks if correct answer given	
	1		15 204	seen or implied	N1a
	1		their $15\ 204 \div 30$ or 506.8	FT their 15 204 Accept 15 240, 1524, 150 204, 152 004	N9
	1		(£)506.80	FT from 15 240, 1524, 150 204, 152 004 2dp required Accept (£)507 rounded from (£)506.80	N9