TQUK Functional Skills Qualification in Maths at Level 1

Mark Scheme (Past Paper 4)

Mark scheme information

This mark scheme is intended to support the valid and consistent marking of the examination paper identified above. This mark scheme includes:

- the total marks available for each question or sub question
- the individual subject content coverage and mapping of each question or sub-question as well as coverage totals
- the marking process and considerations which could or should be followed
- the types of responses expected for each mark.

Information for the Marker:

- this mark scheme document covers both Section A (Non-Calculator) and Section B (Calculator)
- all marking must be completed consistently and the mark scheme must be applied fairly
- markers should award full marks if the candidate deserves full marks
- working is always expected, and space is provided for candidates to show their working.
- questions where marks are awarded for working will always state 'show your working' or similar statement
- markers should be prepared to award zero marks if the candidate's response is not worthy of credit according to the requirements of the mark scheme for that question
- for paper-based assessment, individual marks awarded to the candidate should be annotated clearly on the candidate's script. Once calculated and checked, overall marks achieved by the candidate must be included in the relevant area of the examination front cover.

PASS MARK: 35

Glossary

Marking Term	Definition
ACO	Accept only the correct answer
FOL	Follow-through marks are applied when there are earlier mistakes in the method
UNIT	The unit must be included in final answer for the mark(s) to be given
ALL	Identifies that all separate points must be met in order to receive full marks
NUM	Confirms that only the number is required, not the specific unit, type or measure
OE	Or equivalent
Coverage Term	Definition
UN	Use of number and the number system
UCM	Use of common measures, shape and space
HID	Handle information and data
PS	The ability to apply mathematical thinking effectively to solve problems
UPS	The ability to do maths when not as part of a problem

Section A: Non-Calculator

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
1	1	1	(0).032	ACO	UPS	UN3b
2	1	1	1876; 9 999; 13 987; 56 345; 100 101	ACO	UPS	UN1
3	1	1	–3	ACO	UPS	UN2
4	1	1	6.06	ACO	UPS	UN11a
5	2	2	(£)4.50	**Award full marks if correct answer given**	PS	
		1	6 × 0.25 or 1.5 OR 6 × 0.75 or 4.5	OE method		UCM19
		1	(£)4.50	ACO Must be 2dp		UCM19
6	2	2	1650	**Award full marks if correct answer given**	UPS	
		1	(1200 + 1500 + 2000 + 1750 + 1800) ÷ 5	OE method Award if brackets omitted		HID29a
		1	1650	ACO		HID29a

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
7	2	2	Nilam 20 AND Morgan 120	**Award full marks if correct answer given**	UPS	
		1	140 ÷ 7 (× 6) or 20 or 120	OE method		UN17a
		1	Nilam 20 AND Morgan 120	ACO		UN17a

8	2	2	144 (meals)	**Award full marks if correct answer given**	PS	
		1	24 × 6	OE method		UN4
		1	144 (meals)	ACO		UN4

9	3	3	No AND 85 500 (cm^2)	**Award full marks if correct answer and correct reason given**	PS	
		1	190 × 450	OE method		UCM22a
		1	85 500 (cm^2)	ACO		UCM22a
		1	No AND 85 500 (cm^2)	Accept No AND any correct reason FOL their 85 500 correctly compared with 85 000		UN1

Total: 15 marks

Section B: Calculator

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
1	1	1	Cuboid	ACO Accept any recognisable spelling	UPS	UCM25a
2	1	1	5929	ACO	UPS	UN6b
3	1	1	63 (°)	ACO Award mark for 61 to 65	UPS	UCM26b
4	2	2	0.63	**Award full marks if correct answer given**	UPS	
		1	0.62(5)	ACO		UN9
		1	0.63	FOL their 0.625 correctly rounded to 2dp from a minimum of 2dp seen		UN12c
5	2	2	3948	**Award full marks if correct answer given**	PS	
		1	3760 × 1.05	OE method		UN14bi
		1	3948	ACO		UN14bi
6	2	1	4 OR 16 OR 10	ACO At least one rounded value seen ALL	UPS	UN15b
		1	30	ACO ALL Do not accept 30 from 30.74 truncated seen		UN15b

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
7	3	3	No AND 3.5 (hours) AND 3.25 (hours) OR No AND 3 (hours) 15 (mins) AND 3 (hours) 30 (mins) OR No AND 195 (mins) OR No AND $3\frac{1}{2}$ (hours)	**Award full marks if correct answer and correct reason given**	PS	
		1	3.5 (hours) or 3.25 (hours) OR 3 (hours) 15 (mins) or 3 (hours) 30 (mins) OR 180 (mins) or 15 (mins)	OE any one correct time conversion		UCM20e
		1	3.5 (hours) AND 3.25 (hours) OR 3 (hours) 15 (mins) AND 3 (hours) 30 (mins) OR 195 (mins) OR $3\frac{1}{2}$ (hours)	OE both times in a comparable format Implies 1st mark		UCM20e
		1	No AND 3.5 (hours) AND 3.25 (hours) OR No AND 3 (hours) 15 (mins) AND 3 (hours) 30 (mins) OR No AND 195 (mins)	Accept No AND Any correct reason		UCM20e

			OR No AND $3\frac{1}{2}$ (hours)			

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
8	3	3	No AND 20 (°C) OR No AND 77 (°F) OR No AND 36 AND 45	**Award full marks if correct answer and correct reason given**	PS	
		1	68 – 32 or 36 OR 25 × 1.8 or 45	OE method to apply first step of rule		UN5b
		1	68 – 32 ÷ 1.8 or 20 OR 36 ÷ 1.8 or 20 OR 25 × 1.8 + 32 OR 45 + 32 or 77 OR 68 – 32 AND 25 × 1.8 OR 36 AND 45	OE method to apply full rule		UN5b
		1	No AND 20 (°C) OR No AND 77 (°F) OR No AND 36 AND 45	Accept No AND any correct reason		UN5b

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
9	3	3	Restaurant B AND 112 AND 115	**Award full marks if correct answer and correct reason given**	PS	
		1	4 ÷ 7 × 196 OR 5 ÷ 8 × 184	OE method		UN9
		1	112 OR 115	ACO Implies 1st mark		UN9
		1	Restaurant B AND 112 AND 115	Accept Restaurant B AND any correct reason FOL the correct decision based on their values from correct method only if 2nd mark not awarded		UN9

<table>
<tr><th>Q</th><th>Total Marks</th><th>Marks</th><th>Answer/Examples</th><th>Further Considerations/Comments</th><th>PS/UPS</th><th>SC</th></tr>
<tr><td rowspan="5">10</td><td rowspan="5">3</td><td>3</td><td colspan="2">Award full marks for a fully correct frequency table</td><td rowspan="5">PS</td><td></td></tr>
<tr><td>1</td><td>4 equal groups with no gaps or overlaps</td><td>e.g. 0 – 4, 5 – 9, 10 – 14 and 15 – 20</td><td>HID28a</td></tr>
<tr><td>1</td><td>Any 2 frequencies correct
OR
Frequencies total 15</td><td>Do not award tallies without frequency
FOL their groups</td><td>HID28a</td></tr>
<tr><td>1</td><td>Fully correct frequency table</td><td>FOL their groups provided there are no gaps or overlaps
Do not award tallies without frequency</td><td>HID28a</td></tr>
<tr><td></td><td colspan="2"><table><tr><th>Score</th><th>Frequency</th></tr><tr><td>0 - 4</td><td>2</td></tr><tr><td>5 - 9</td><td>4</td></tr><tr><td>10 - 14</td><td>6</td></tr><tr><td>15 - 20</td><td>3</td></tr><tr><td>Total</td><td>15</td></tr></table></td><td></td><td></td></tr>
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Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
11	4	4	B AND (£)2760 AND (£)2745	**Award full marks if correct answer and correct reason given**	PS	
		1	2400 × 0.05 × 3 (+ 2400)	OE method		UCM18
		1	(£)360 OR (£)2760	ACO Implies 1st mark		UCM18
		1	915 × 3 or 2745	OE method		UN17b
		1	B AND (£)2760 AND (£)2745	Accept B AND any correct reason FOL the correct decision using their values		UN1

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
12	4	4	(£)48.45	**Award full marks if correct answer given**	PS	
			Alternative method 1: Total cost first			
		1	360 x 0.95	OE method		UN14a
		1	342	ACO Implies 1st mark		UN14a
		1	Their 342 ÷ 6 × 85 or 4845	OE method FOL their 342		UN17b
		1	(£)48.45	FOL their 4845 correctly converted to £		UCM20d
		4	**Alternative method 2: Conversion first**			
		1	(£)0.85	ACO		UCM20d
		1	360 × 0.95 or 342	OE method		UN14a
		1	Their 342 ÷ 6 × their 0.85	OE method FOL their 0.85 and their 342		UN17b
		1	(£)48.45	FOL the correct answer to their 342 ÷ 6 × their 0.85		UN14a

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
13	5	5	14 (panels)	**Award full marks if correct answer given**	PS	
			Alternative Method 1: Working in centimetres			
		1	670 + 670 + 390 + 390	OE method		UCM22b
		1	2120 (cm)	ACO Implies 1st mark		UCM22b
		1	21.2 (m) OR 160 (cm)	FOL their perimeter correctly converted to metres		UCM20a
		1	Their 21.2 ÷ 1.6 or 13.25 OR Their 2120 ÷ their 160 or 13.25	OE method FOL their perimeter and their 160		UN17b
		1	14 (panels)	FOL their 13.25 correctly rounded up to the nearest whole number		UN12a
			Alternative Method 2: Working in metres			
		1	3.9 (m) AND 6.7 (m)	ACO		UCM20a
		1	Their 3.9 + their 3.9 + their 6.7 + their 6.7	OE method		UCM22b
		1	21.2 (m)	FOL the correct answer using their 3.9 and their 6.7 Implies first 2 marks		UCM22b
		1	Their 21.2 ÷ 1.6 or 13.25	OE method FOL their perimeter		UN17b
		1	14 (panels)	FOL their 13.25 correctly rounded up to the nearest whole number		UN12a

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
14	5	1	$2 \times 2 \times 0.4$	OE method	PS	UCM23
		1	1.6 (m^3)	ACO Implies 1st mark		UCM23
		1	Their 1.6 × 1000 or 1600	OE method FOL their 1.6		UCM20c
		1	Their 1.6 × 1000 × 3 OR Their 1600 × 3	OE method FOL their 1.6 or their 1600		UN17b
		1	4800 (seconds) OR 80 minutes	ACO UNITs needed for minutes Ignore any attempts at a time conversion once 4800 seen		UN17b

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
15	6	6	**Award full marks for fully correct bar chart**		PS	
		1	200 × 0.4	OE method		UN14a
		1	(Car) 80 OR Bus (5)	ACO Implies 1st mark		UN14a
		1	Linear scale starting at zero	Scale must start at zero and go up to at least 60 Zero may be implied by their scale		HID27d
		1	Both axes labelled	E.g. number of people on y axis and walk, cycle, car and bus x axis or vice-versa		HID27d
		1	At least 2 bars drawn correctly	Allow half a minor gridline tolerance Accept vertical or horizontal bars Scale must be linear throughout whole numbered axis and must include 5 to 60 Award if line graph of vertical line graph drawn instead for this mark only FOL their 80 and their 5 if seen		HID27d
		1	All 4 bars drawn correctly	Allow half a minor gridline tolerance Accept vertical or horizontal bars Scale must be linear throughout whole numbered axis and must include 5 to 60.FOL their 80 and their 5 if seen		HID27d

Total: 45 marks

Mapping Matrix

Totals	UN	UCM	HID	PS	UPS	SC
Section A	9	4	2	7	8	N/A
Section B	24	14	7	38	7	N/A
Total (%)	55%	30%	15%	75%	25%	22/31

Ofqual Mapping Requirements

	UN	UCM	HID	PS	UPS	SC
Total (%)	45-55%	30-45%	10-20%	73-77%	23-27%	

End of Mark Scheme