

TQUK Functional Skills Qualification in Maths at Level 1

Mark Scheme (Past Paper 2)

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 mark 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 documents 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	1600	ACO	UPS	UN6b
2	1	1	45.6	ACO	UPS	UN3b
3	1	1	0.48	ACO	UPS	UN11a
4	1	1	17 730	ACO	UPS	UN2
5	1	1	(£)0.50	ACO	UPS	UCM20d
6	2	2	3600 (m)	Award full marks if correct answer seen	UPS	UCM21
		1	$2400 \div 2 \times 3$	OE method		
		1	3600 (m)	ACO		
7	2	1	12 AND 9	ACO ALL	UPS	UN15b
		1	108	ALL If the first mark is not awarded, then accept: 105.4 from 12.4×8.5 102 from 12×8.5 111.42 from 12.38×9 111.6 from 12.4×9 Do not accept 105.23 or any rounding or truncating of 105.23 from 12.38×8.5		

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
8	2	2	Monday AND $\frac{15}{40}$ AND $\frac{16}{40}$ OR Monday AND 0.375 AND 0.4 OR Monday AND 37.5(%) AND 40 (%)	Award full marks if correct answer and correct reason seen	PS	HID30b
		1	$\frac{15}{40}$ AND $\frac{16}{40}$ OR 0.375 AND 0.4 OR 37.5(%) AND 40 (%)	OE fractions which allow a direct comparison OE method for example may find $\frac{3}{8}$ and $\frac{4}{10}$ of an integer		
		1	Monday AND $\frac{15}{40}$ AND $\frac{16}{40}$ OR Monday AND 0.375 AND 0.4 OR Monday AND 37.5(%) AND 40 (%)	Accept Monday AND any correct reason OE fractions which allow a direct comparison		
9	4	1	13.5×5	OE method	PS	UCM22 a
		1	67.5	ACO		UN11b
		1	$(13.5 \times 5) \div 2.5$ OR Their $67.5 \div 2.5$	OE method FOL their 67.5		UN17b
		1	27 (people)	FOL the correct answer to their $67.5 \div 2.5$ provided final answer given as a whole number of people		UN11b
Total: 15 marks						

Section B: Calculator

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
1	1	1	40(°)	Accept [38, 42] (°)	UPS	UCM26 b
2	1	1	B	ACO	UPS	UCM25 b
3	2	1	0.6	ACO	UPS	UN16
		1	60(%)	ACO If zero scored, award one mark if their percentage is the correct percentage for their decimal		

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
4	2	2	2.75 hours OR $2\frac{3}{4}$ hours OR 165 mins OR 2 hours 45 mins	Award full marks if correct answer seen	PS	UCM20 e
		1	2 (hour) 30 (mins) OR 2.5 (hours) or $2\frac{1}{2}$ (hours) OR 15 (mins) or 0.25 (hours) OR 2.75 (hours) OR $2\frac{3}{4}$ (hours) OR 165 (mins) OR 2 (hours) 45 (mins)	Any one correct time conversion		
		1	2.75 hours OR $2\frac{3}{4}$ hours OR 165 mins OR 2 hours 45 mins	OE correct time format UNIT		

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
5	2	2	23	Award full marks if correct answer seen	UPS	
		1	18 – –5 OR 18 AND –5 clearly identified only	OE method to work out range		HID29b
		1	23	ACO		UN2

6	3	3	No AND 12.15 (pm) OR OR No AND 10 (am) No AND 2 (hours) AND 1 (hour) 45 (mins)	Award full marks if correct answer and correct reason seen	PS	
		1	70 ÷ 35	OE method		UN5a
		1	2 (hours)	ACO implies first mark		
		1	No AND 12.15 (pm) OR No AND 10 (am) OR No AND 2 (hours) AND 1 (hour) 45 (mins)	Accept No AND any correct reason		

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
7	3	3	£2152.50	Award full marks if correct answer seen	PS	
		1	(£)2050	ACO		UN1
		1	Their 2050 \times 0.05 or 102.5(0) OR Their 2050 \times 1.05 or 2152.5(0)	OE method Accept for example (Two thousand and fifty) \times 0.05 OR (Two thousand and fifty) \times 1.05 FOL their 2050 if their 2050 is either 2000, 2005, 2500, 20 500		UCM18
		1	£2152.50	Accept (£)2100 from use of 2000 (£)2105.25 from use of 2005 (£)2625 from use of 2500 (£)21 525 from use of 20 500		UCM18

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
8	3	1	$\frac{1}{15}$	ACO May be seen or implied in subsequent working e.g $600 \div 15$	PS	UN8a
		1	$600 \times$ their 15	OE method FOL their 15 e.g. may be implied by 600×50		UN4
		1	9000 (students)	FOL the correct answer to $600 \times$ their 15		UN4

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
9	3	3	No AND 2.34 (km) OR No AND 0.16 (km) OR No AND 2340 (m) AND 2500 (m)	Award full marks if correct answer and correct reason seen	PS	
		1	620 ÷ 1000 OR 970 ÷ 1000 OR 750 ÷ 1000 OR (620 + 970 + 750) ÷ 1000 OR 2340 ÷ 1000 OR 2.5 × 1000	OE method to convert one or more distances to kilometres or method to convert 2.5 km to metres		UCM20 a
		1	0.62 (km) OR 0.97 (km) OR 0.75 (km) OR 2.34 (km) OR 2500 (m)	ACO for one or more distances converted to kilometres or 2.5 converted to metres		UCM20 a
		1	No AND 2.34(km) OR No AND 2340 (m) AND 2500 (m) OR No AND 0.16 (km)	Accept No AND any correct reason. FOL their 2.34 correctly compared with 2.5 if $2 < \text{their } 2.34 < 3$ only if one of the previous marks not awarded Accept No AND 2500 (m) AND 2340 (m) FT their 2500 correctly compared with their 2340 if $2000 < \text{their values} < 3000$ only if one of the previous marks not awarded		UN10

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
10	3	3	0.36 (kg)	Award full marks if correct answer seen	PS	
		1	0.3 ÷ 10 or 0.03 OR 0.3 × 12 or 3.6	OE method		UN17b
		1	0.3 ÷ 10 × 12 OR Their 0.03 × 12 OR 0.3 × 12 ÷ 10 OR Their 3.6 ÷ 10	OE method FOL their 0.03 or their 3.6		UN17b
		1	0.36(kg)	ACO		UN17b
11	3	3	Yes AND 47.4 (m)	Award full marks if correct answer seen	PS	
		1	15 – 4.6 – 4.6 or 5.8 (m) OR 3.5 + 5.2 or 8.7 (m)	Finds missing side May be seen or implied in subsequent working		UCM22b
		1	15 + 3.5 + 3.5 + 4.6 + 4.6 + 5.2 + 5.2 + their 5.8 OR 15 + 15 + 3.5 + 3.5 + 5.2 + 5.2 OR (15 + their 8.7) × 2	OE method FOL their 5.8 or their 8.7 Award if 47.4 seen		
		1	Yes AND 47.4 (m)	ACO Accept Yes AND any correct reason		

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
12	4	4	(£)115.50	Award full marks if correct answer seen	PS	
		1	$(50 + 30 + 40 + 190 + 170 + 150) \div 6$ OR $630 \div 6$	OE method Award if brackets omitted		HID29a
		1	(£)105	ACO implies 1 st mark		HID29a
		1	Their 105×0.1 or 10.5(0) OR Their 105×1.1 or 115.5(0)	OE method FOL their 105 from a correct method to calculate the mean		UN14bi
		1	(£)115.50	FOL the correct answer to their 105×1.1 Final answer must be written using correct money format such as 2dp if pence given in answer		UN14bi

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
13	4	1	Linear scale starting at zero on either x axis or y axis	Scale must start at zero and go up to at least 98 Zero may be implied by their scale.	PS	HID27d
		1	Both axes labelled	For example number sold on y axis and January, February, March and April on x axis or vice-versa		
		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 20 to 98. Award if line graph or vertical line graph drawn instead for this mark only		
		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 20 to 98.		

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC													
14	5	5	Award full marks for fully correct table		PS														
		1	240 ÷ 6 or 40	OE method		UN17a													
		1	40 (brown) AND 200 (white)	ACO implies 1 st mark		UN17a													
		1	40 × 0.05 or 2 OR 200 × 0.30 or 60	OE method FOL their 40 and 200 if they sum to 240 2 or 60 implies first 2 marks		UN14a													
		1	2 AND 60	ACO implies 3 rd mark		UN14a													
		1	Table correctly completed	FOL their values correctly placed from correct working If values in the tables are incorrect and no working seen then zero marks		HID27a													
		<table><tr><td></td><td>Vegetarian</td><td>Non-Vegetarian</td><td>Total</td></tr><tr><td>Brown bread</td><td>2</td><td>38</td><td>40</td></tr><tr><td>White bread</td><td>60</td><td>140</td><td>200</td></tr><tr><td>Total</td><td>62</td><td>178</td><td>240</td></tr></table>						Vegetarian	Non-Vegetarian	Total	Brown bread	2	38	40	White bread	60	140	200	Total
	Vegetarian	Non-Vegetarian	Total																
Brown bread	2	38	40																
White bread	60	140	200																
Total	62	178	240																

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC	
15	6	6	189 (litres)	Award full marks if correct answer seen	PS		
			Alternative Method 1: Conversion First				
		1	$60 \times 60 \times 60$	OE method		UCM23	
		1	216 000 (cm ³)	ACO implies first mark		UCM23	
		1	$(60 \times 60 \times 60) \div 1000$ OR Their 216 000 \div 1000	OE method to convert cm ³ to litres		UCM20c	
		1	216 (litres)	FOL their volume correctly converted to litres. 216 implies first 3 marks		UCM20c	
		1	Their $216 \times 7 \div 8$	OE method FOL their 216 after an attempt at volume and conversion		UN9	
		1	189 (litres)	ACO		UN9	
			Alternative Method 2: Fraction First				
		1	$60 \times 60 \times 60$	OE method		UCM23	
		1	216 000 (cm ³)	ACO implies first mark		UCM23	
		1	$(60 \times 60 \times 60) \times 7 \div 8$ OR Their 216 000 $\times 7 \div 8$	OE method		UN9	
		1	189 000 (cm ³)	FOL the correct answer to their 216 000 $\times 7 \div 8$ 189 000 implies first 3 marks		UN9	
		1	Their 189 000 \div 1000	OE method to convert cm ³ to litres FOL their 189 000 after an attempt at volume and finding fraction		UCM20c	
		1	189 (litres)	ACO		UCM20c	

Total: 45 marks

Mapping Matrix

Totals	UN	UCM	HID	PS	UPS	SC
Section A	9	4	2	6	9	N/A
Section B	22	15	8	39	6	N/A
Total (%)	52%	32%	17%	75%	25%	25/31

Ofqual Mapping Requirements

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

End of Mark Scheme