

TQUK Functional Skills Qualification in Maths at Level 1

Mark Scheme (Past Paper 8)

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 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 learner deserves full marks
- working is always expected, and space is provided for learners 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 learner'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 learner should be annotated clearly on the learner's script. Once calculated and checked, overall marks achieved by the learner must be included in the relevant area of the examination front cover.

PASS MARK: 34

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	d) Acute	ACO	UPS	UCM24
2	1	1	0.51	ACO	UPS	UN11b
3	1	1	0.056	ACO	UPS	UN3c
4	1	1	3.4	ACO	UPS	UN3a
5	1	1	$\frac{2}{6}$	OE fraction	UPS	HID31
6	1	1	3.157, 3.19, 3.201, 3.212, 3.24	ACO	UPS	UN10
7	2	2	1450 (pence)	Award full marks if correct answer given	UPS	
		1	14.5×100	OE method		UCM20d
		1	1450 (pence)	ACO		UN3b

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
8	3	3	Yes AND 3510 OR Yes AND 17 550 AND 17 500	Award full marks if correct answer and correct reason given	PS	
		Alternative Method 1: Comparing Mean				
		1	$(3000 + 3200 + 3850 + 4280 + 3220) \div 5$ OR $17\,550 \div 5$	OE method to work out mean Accept $(3000 + 3200 + 3850 + 4280 + 3220) \div 5$		HID29a
		1	3510	ACO Implies 1 st mark		HID29a
		1	Yes AND 3510	Accept Yes AND any correct reason FOL their 3510 correctly compared with 3500		UN1
		Alternative Method 2: Reverse Process				
		1	$3000 + 3200 + 3850 + 4280 + 3220$ or 17 550 AND 3500×5 or 17 500	OE method		HID29a
		1	17 550 AND 17 500	ACO Implies 1 st mark		HID29a
		1	Yes AND 17 550 AND 17 500	Accept Yes AND any correct reason FOL their 17 550 correctly compared with their 17 500		UN1

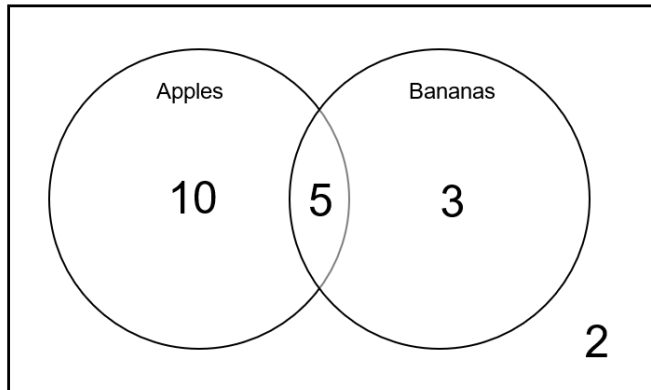
Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
9	4	4	(£)1000	Award full marks if correct answer given	PS	
		1	5×8	OE method to work out area		UCM22a
		1	$40 \text{ (m}^2\text{)}$	ACO Implies 1 st mark		UCM22a
		1	$40 \div 4 \times 100$	OE method		UN17b
		1	(£)1000	ACO		UN3b

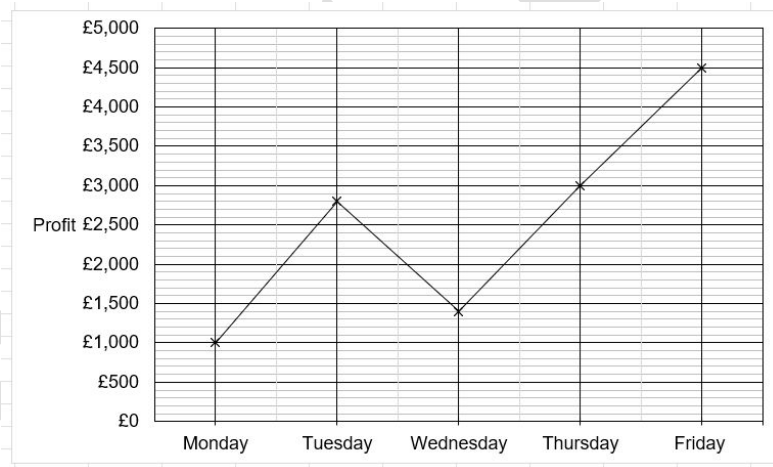
Total: 15 marks

Section B: Calculator

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
1	1	1	Accept any 6-sided shape	ACO (does not need to be regular)	UPS	UCM24
2	1	1	3500 (grams)	ACO	UPS	UCM20b
3	2	2	Thursday AND $\frac{5}{50}$ AND $\frac{6}{50}$ OR Thursday AND 0.1 AND 0.12 OR Thursday AND 10(%) AND 12(%)	Award full marks if correct answer and correct reason given	PS	
		1	$\frac{5}{50}$ AND $\frac{6}{50}$ OR 0.1 AND 0.12 OR 10(%) AND 12(%)	OE fractions which allow a direct comparison OE method e.g. may find $\frac{1}{10}$ and $\frac{3}{25}$ of an integer		HID30b
		1	Thursday AND $\frac{5}{50}$ AND $\frac{6}{50}$ OR Thursday AND 0.1 AND 0.12 OR Thursday AND 10(%) AND 12(%)	Accept Thursday and any correct reason OE fractions which allow a direct comparison		HID30b
4	2	1	0.6	ACO ALL	UPS	UN16
		1	60%	ACO ALL If zero scored award one mark if their percentage is the correct percentage for their decimal		UN16

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
5	2	1	e.g. 1 + 3	OE Method to estimate Accept use of any functional rounding of $1\frac{1}{3}$ and $2\frac{3}{4}$	PS	UN15a
		1	e.g. 4 (hours)	FOL the correct answer to their 1 + their 3 from use of estimation		UN15a
6	2	2	190	Award full marks if correct answer given	UPS	
		1	200×0.95 OR 200×0.05 or 10	OE method		UN14bii
		1	190	ACO		UN14bii
7	2	2	22.5 (cm)	Award full marks if correct answer given	PS	
		1	$15 \div 12 \times 18$	OE method to apply scale		UCM21
		1	22.5 (cm)	ACO		UCM21
8	3	3	Yes AND (£)1080	Award full marks if correct answer and correct reason given	PS	
		1	$900 \times 0.1 (\times 2)$ or 90 or 180	OE method to find 10%		UCM18
		1	$900 + (900 \times 0.1 \times 2)$ OR $900 + 180$	OE method to find total after 2 years		UCM18
		1	Yes AND (£)1080	Accept Yes AND any correct reason		UN1

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC	
9	3	3	Award full marks for fully correct Venn diagram		PS		
		1	20 ÷ 4 or 5	OE method May be seen in Venn diagram		UN9	
		1	At least one section correct	Any repeated numbers score zero		HID27b	
		1	Fully correct Venn diagram	Any repeated numbers score zero		HID27b	
							
10	4	4	6 (fence panels)	Award full marks if correct answer given	PS		
		1	2.4 + 0.6 + 0.6 + 1.3 + 0.8 + 0.7 + 0.7 + 1.9	OE method to work out perimeter		UCM22b	
		1	9 (m)	ACO Implies 1 st mark		UCM22b	
		1	Their 9 ÷ 1.6 or 5(.625)	OE method FOL their 9		UN17b	
		1	6 (fence panels)	FOL the correct answer to their 9 ÷ 1.6 rounded up to the nearest whole number		UN12a	

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
11	4	4	Award full marks for fully correct line graph		PS	
		1	Linear scale starting at zero on y axis	Scale must start at zero and go up to at least 4500 Zero may be implied by their scale		HID27e
		1	Both axes labelled	E.g. profit on y axis and each individual day on x axis		HID27e
		1	At least 3 points plotted correctly	Allow half a minor gridline tolerance Scale must be linear throughout whole y axis and must include 1000 to 4500 Award if bar chart or vertical line graph drawn instead for this mark only		HID27e
		1	All 5 points plotted correctly and joined with a straight line	Allow half a minor gridline tolerance Scale must be linear throughout whole y axis and must include 1000 to 4500		
						HID27e

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
12	4	4	21 (times)	Award full marks if correct answer given	PS	
		1	$70 \times 40 \times 36$	OE method to work out volume		UCM23
		1	100 800	ACO Implies 1 st mark		UCM23
		1	Their $100\,800 \div 5000$ or 20(.16)	OE method FOL their 100 800		UN17b
		1	21 (times)	FOL the correct answer to their $100\,800 \div 5000$ correctly rounded up to the nearest whole number		UN12a
13	5	5	Bank B AND (£)1100 AND (£)1125	Award full marks if correct answer and correct reason given	PS	
		1	1000×0.05 or 50 OR 1000×1.05 or 1050	OE method to work out interest or total after one year for bank A		UCM18
		1	$1000 \times 0.05 \times 2$ or 100 OR $1000 + 1000 \times 0.05 \times 2$ or 1100	OE method to work out interest or total after two years for bank A 1100 implies 1 st mark		UCM18
		1	$1000 \div 8$ or 125	OE method to work out fraction		UN9
		1	$1000 + 1000 \div 8$ or 1125	OE method to work out total for bank B 1125 implies 3 rd mark		UN9
		1	Bank B AND (£)1100 AND (£)1125	Accept Bank B AND any correct reason		UN1

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC																	
14	5	5	Table correctly completed	Award full marks for fully correct table	PS																		
		1	80 ÷ 4 or 20	OE method		UN17a																	
		1	20 (junior) and 60 (senior)	ACO Implies first mark		UN17a																	
		1	Their 20 × 0.3 or 6 OR Their 60 × 0.45 or 27	OE method FOL their 20 and 60 if they sum to 80 6 or 27 implies first 2 marks		UN14a																	
		1	6 and 27	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>Rock climbing</td><td>Sailing</td><td>Total</td></tr><tr><td>Junior students</td><td>6</td><td>14</td><td>20</td></tr><tr><td>Senior students</td><td>27</td><td>33</td><td>60</td></tr><tr><td>Total</td><td>33</td><td>47</td><td>80</td></tr></table>						Rock climbing	Sailing	Total	Junior students	6	14	20	Senior students	27	33	60	Total	33	47	80	
			Rock climbing	Sailing			Total																
Junior students	6	14	20																				
Senior students	27	33	60																				
Total	33	47	80																				

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
15	5	5	No AND correct reason e.g. No AND 7:45 (am) OR No AND 8 (am) OR No AND 45 mins AND 1 hour 15 mins OR No AND 0.75 (hours) AND 1.25 hours OR No AND $\frac{3}{4}$ (hour) AND $1\frac{1}{4}$ (hours)	Award full marks if correct answer and correct reason given	PS	
		1	3 (km)	ACO		UCM20a
		1	Their $3 \div 4$	OE method to apply rule FOL their 3 Accept $3000 \div 4$ for this mark only		UN5a
		1	0.75 (hours)	FOL the correct answer to their $3 \div 4$ Their 3 must come from an attempt at a conversion Implies first 2 marks		UN5a
		1	45 mins or 1 hour 15 mins OR 1.25 hours OR $\frac{3}{4}$ (hour) or $1\frac{1}{4}$ (hours) OR 7:45 (am) OR 8 (am)	At least one correct time conversion OR Correct leaving time OR Time Charlie will arrive		UCM20e
		1	No AND correct reason e.g. No AND 7:45 (am) OR No AND 8 (am)	Accept No AND any correct reason with comparable values		UCM20e

			OR No AND 45 mins AND 1 hour 15 mins OR No AND 0.75 (hours) AND 1.25 hours OR No AND $\frac{3}{4}$ (hour) AND $1\frac{1}{4}$ (hours)			
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Total: 45 marks

Mapping Matrix

Totals	UN	UCM	HID	PS	UPS	SC
Section A	8	4	3	7	8	N/A
Section B	21	15	9	39	6	N/A
Total (%)	48%	32%	20%	77%	23%	21/28

Ofqual Mapping Requirements

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

End of Mark Scheme