TQUK Functional Skills Qualification in Maths at Level 1

Mark Scheme (Past Paper 1)

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	0.59	ACO	UPS	UN11a
2	1	1	25	ACO	UPS	UN6a
3	1	1	704 000	ACO	UPS	UN3c
4	1	1	0.08	ACO	UPS	UN3a
5	1	1		Mark intention	UPS	HID30a
6	2	2	(£)1680	**Award full marks if correct answer seen**	PS	UCM18
		1	1600 × 0.05 or 80 OR 1600 × 1.05	OE method		
		1	(£)1680	ACO		
7	2	2	0.86	**Award full marks if correct answer seen**	UPS	
		1	0.9 – 0.04	OE method		HID29b
		1	0.86	ACO If zero scored, award one mark UN11a for a correct answer to a subtraction using two of the given values		UN11a

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
8	2	2	90	**Award full marks if correct answer seen**	UPS	
		1	48	Shows an understanding of BIDMAS Award if 8 × 6 attempted first then 42 added to their answer		UN7
		1	90	ACO		

9	4	4	Yes AND 2.41 (kg) OR Yes AND 2410 (grams) AND 2500 (grams) OR Yes AND 90 (grams left over)	**Award full marks if correct answer and correct reason seen**	PS	
		1	860 ÷ 1000 OR 500 ÷ 1000 OR 1.05 × 1000 OR 2.5 × 1000	OE method		UCM20b
		1	One correct weight conversion 0.86 (kg) OR 0.5 (kg) OR 1050 (grams) OR 2500 (grams)	ACO Implies 1st mark		UCM20b
		1	1.91 (kg) or 1.55 (kg) or 1.35 (kg) or 2.41 (kg) OR 2410 (grams) OR 90 (grams left over)	FOL their values after an attempt at conversion. For info: 1.05 + 0.86 = 1.91 1.05 + 0.5 = 1.55 0.86 + 0.5 = 1.35 90 (grams left over) implies first 2 marks		UN11a

		1	Yes AND 2.41 (kg) OR Yes AND 2410 (grams) AND 2500 (grams) OR Yes AND 90 (grams left over)	Accept Yes AND Any correct reason FOL the correct decision using their 2.41 if 2 < their 2.41 < 3 FOL the correct decision using their 2410 and their 2500 if 200(0) < their values < 300(0)		UN10

Total: 15 marks

Section B: Calculator

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
1	1	1	14.86	ACO	UPS	UN12c

2	1	1	Any quadrilateral drawn	Mark intention	UPS	UCM24

3	2	2	(£)3.80	**Award full marks if correct answer seen**	UPS	UCM20d
		1	(£)0.90 OR (£)0.36 OR 254p OR 380p OR (£)3.8(0)	One correct money conversion		
		1	(£)3.80	ACO – Must be 2dp May be seen in table		

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
4	2	2	(Shop) A AND 12.5(%) or (Shop) A AND 0.15 AND 0.125 or (Shop) A AND $\frac{6}{40}$ AND $\frac{5}{40}$	**Award full marks if correct answer and correct reason seen**	PS	
		1	12.5(%) OR 0.15 AND 0.125 OR $\frac{6}{40}$ AND $\frac{5}{40}$	OE method for example may find 15% and $\frac{1}{8}$ of an integer OE fractions which allow a direct comparison		UN16
		1	(Shop) A AND 12.5(%) or (Shop) A AND 0.15 AND 0.125 or (Shop) A AND $\frac{6}{40}$ AND $\frac{5}{40}$	Accept **(Shop) A** AND any correct reason OE fractions which allow a direct comparison		UN16

5	2	**2**	(Leslie) (£)70 AND (Bo) (£)490	**Award full marks if correct answer seen**	UPS	UN17a
		1	560 ÷ 8 (× 7) or (£)70	OE method to apply ratio Award if correct answers seen in the incorrect boxes		
		1	(Leslie) (£)70 AND (Bo) (£)490	ACO Answers must be the correct way round		

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
6	3	3	No AND 5 (km) OR No AND 500 000 (cm) AND 5 000 000 (cm) OR No AND 5000 (m) AND 50 000 (m)	**Award full marks if correct answer and correct reason seen**	PS	
		1	500 000 (cm)	ACO May be seen or implied in subsequent working		UN1
		1	Their 500 000 ÷ 100 ÷ 1000 OR 50 × 100 × 1000 OR (Their 500 000 cm =) 5000 metres OR (50 km =) 50 000 metres	OE method Award if any one correct conversion seen Their 500 000 must start with a 5 and have at least two zeros such as 500(000 000 ….) Numbers above one million are not expected at Level 1 but award if seen FOL their 500 000 cm correctly converted to metres		UCM20a
		1	No AND 5 (km) OR No AND 500 000 (cm) AND 5 000 000 (cm) OR No AND 5000 (m) AND 50 000 (m)	Accept **No** AND any correct reason.		UCM20a

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
7	3	3	Yes AND (£)10 011 OR Yes AND (£)50 055 AND (£)50 000	**Award full marks if correct answer and correct reason seen**	PS	
		1	(12 300 + 8730 + 9500 + 9275 + 10 250) ÷ 5 OR 50 055 ÷ 5 OR 12 300 + 8730 + 9500 + 9275 + 10 250 **AND** 10 000 × 5	OE method Award if bracket omitted		HID29a
		1	(£)10 011 OR 50 055 AND 50 000	ACO Implies 1st mark		HID29a
		1	Yes AND (£)10 011 OR Yes AND (£)50 055 AND (£)50 000	Accept **Yes** AND any correct reason FOL their 10 011 correctly compared with 10 000 FOL the correct comparison using their 50 055 AND their 50 000		UN1

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
8	3	3	(Offer) B AND (£)25.6(0) AND (£)25.32	**Award full marks if correct answer and correct reason seen**	PS	
		1	32 × 0.2 or 6.4(0) OR 32 × 0.8 or 25.6(0)	OE method		UCM19
		1	6.33 × 4 or 25.32	OE method		UN17b
		1	(Offer) B AND (£)25.6(0) AND (£)25.32	Accept **(Offer) B** AND any correct reason		UN10

9	3	3	No AND 19.6(25) (m^2) OR No AND (the height would be) 2.54(777…) (m) OR No AND 7.85 AND 8 OR No AND 3.2	**Award full marks if correct answer and correct reason seen**	PS	
		1	2.5 × 3.14 or 7.85 OR 2.5 × 2.5 or 6.25 OR 20 ÷ 2.5 or 8 OR 20 ÷ 3.14 or 6.36(942…)	OE method to apply one step of rule forwards or in reverse Infinite decimals are not expected at Level 1 but award mark if seen		UN5b
		1	2.5 × 3.14 × 2.5 OR 20 ÷ 2.5 ÷ 3.14 OR 2.5 × 3.14 AND 20 ÷ 2.5 OR 20 ÷ 2.5 ÷ 2.5	OE method to apply both steps of rule. Award if 19(.625) or 2.54(777…) or 3.2 or 7.85 AND 8 seen Infinite decimals are not expected at Level 1 but award mark if seen Implies 1st mark		
		1	No AND 19.6(25) (m^2) OR	Accept **No** AND any correct reason. Infinite decimals are not expected at Level 1 but award mark if seen		

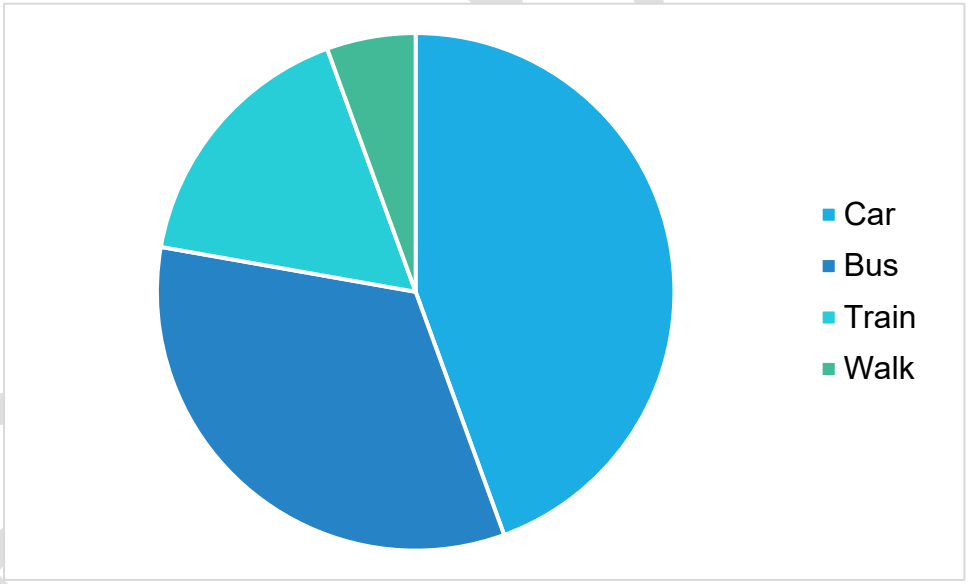
			No AND (the height would be) 2.54(777…) (m) OR No AND 7.85 AND 8 OR No AND 3.2			

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
10	3	3	Chocolate AND correct reason for example Chocolate AND 230 (grams) AND 225 (grams)	**Award full marks if correct answer and correct reason seen**	PS	
		1	920 × 0.25 OR 750 × 0.3	OE method to work out 25% or 30%		UN14a
		1	230 (grams) OR 225 (grams)	ACO Implies 1st mark		UN14a
		1	Chocolate AND correct reason for example Chocolate AND 230 (grams) AND 225 (grams)	Accept **chocolate** AND any correct reason FOL the correct conclusion based on their 230 and their 225 from correct method for percentage only if 2nd mark not awarded		UN13

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
11	3	3	Yes AND 1.75 (hours) and 2 (hours) OR Yes AND 105 (mins) and 120 (mins) OR Yes AND 1 (hour) 45 (mins) AND 2 (hours) OR Yes AND $1\frac{3}{4}$ (hours) AND 2 (hours) OR Yes and 12:30 (pm) (Arrival time) OR Yes and 11 (am) (latest time to catch train)	**Award full marks if correct answer and correct reason seen**	PS	
		1	0.25 (hours) or 15 (mins) OR 75 (mins) or 1.25 (hours) OR 0.5 (hours) OR 1.75 (hours) or 1 (hour) 45 (mins) or $1\frac{3}{4}$ OR 105 (mins) OR 120 (mins) or 2 (hours) OR 12 (pm) OR 11:30 (am)	OE one correct time conversion For info: 10:45 am + 1.25 hours = 12 (pm) 12.45 pm – 1.25 hours = 11:30 (am)		UCM20e
		1	1.75 (hours) AND 2 (hours) OR 105 (mins) AND 120 (mins) OR	OE any comparable total correct times in consistent units. OR Correct arrival time or leaving time.		

			1 (hour) 45 (mins) AND 2 (hours) OR $1\frac{3}{4}$ (hours) AND 2 (hours) OR 12:30 (pm) (Arrival time) OR 11 (am) (latest time to catch train)			
		1	Yes AND 1.75 (hours) and 2 (hours) OR Yes AND 105 (mins) and 120 (mins) OR Yes AND 1 (hour) 45 (mins) AND 2 (hours) OR Yes AND $1\frac{3}{4}$ (hours) AND 2 (hours) OR Yes and 12:30 (pm) (Arrival time) OR Yes and 11 (am) (latest time to catch train)	Accept **Yes** AND any comparable units of time or correct reason		

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
12	4	4	70.4 (cm) OR 70 (cm) OR 71 (cm)	**Award full marks if correct answer seen**	PS	
		1	24 + 24 + 8 + 8	OE method		UCM22b
		1	64 (cm)	ACO implies 1st mark		UCM22b
		1	Their 64 × 0.1 or 6.4 OR Their 64 × 1.1	OE method 6.4 implies first 2 marks		UN14bi
		1	70.4 (cm)	FOL the correct answer from their 64 × 1.1 Accept 70 (cm) or 71 (cm) from functional rounding		UN14bi

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
13	4	4	**Award full marks for fully correct pie chart**		PS	HID27c
		1	360 ÷ 90 × 40 or 160 OR 360 ÷ 90 × 30 or 120 OR 360 ÷ 90 × 15 or 60 OR 360 ÷ 90 × 5 or 20	Method to find at least one angle May be implied by one angle drawn correctly		
		1	160(°) and 120(°) and 60(°) and 20(°)	All 4 angles correct		
		1	At least one angle drawn correctly.	Allow ± 2° tolerance Implies first mark		
		1	All 4 angles drawn correctly and labelled.	Allow ± 2° tolerance Labels can be either on the pie chart OR the key can be completed		
						

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
14	5	5	200 000 (cm^3)	**Award full marks if correct answer seen**	PS	
		1	$50 \times 120 \times 40$	OE method Award if for example $(50 \times 20 \times 40) \times 5$ seen		UCM23
		1	240 000 (cm^3)	ACO implies 1st mark		UCM23
		1	$\frac{5}{6}$	ACO May be seen or implied in previous or subsequent working for example $(50 \times 20 \times 40) \times 5$ Award if for example $(\times)\ 5 \div 6$ seen		UN8a
		1	Their 240 000 $\times$ 5 $\div$ 6	OE method FOL their 240 000 and their $\frac{5}{6}$		UN9
		1	200 000 (cm^3)	FOL the correct answer to their 240 000 $\times$ 5 $\div$ 6 FOL their $\frac{5}{6}$		UN9

Q	Marks in Total	Marks	Answer	Further Considerations/Comments	PS/UPS	SC
15	6	1	12.8 – 4.5 or 8.3 OR 11.6 – 5 or 6.6	Finds a missing side	PS	UCM22a
		1	11.6 × 12.8 or 148.48 OR 4.5 × their 6.6 or 29.7 OR 12.8 × 5 or 64 OR Their 8.3 × their 6.6 or 54.78 OR 11.6 × their 8.3 or 96.28 OR 4.5 × 5 or 22.5	OE method to find the area of any one rectangle FOL their 8.3 and their 6.6		UCM22a
		1	(11.6 × 12.8) – (4.5 × their 6.6) OR 148.48 – 29.7 OR (12.8 × 5) + (their 8.3 × their 6.6) OR 64 + 54.78 OR (11.6 × their 8.3) + (4.5 × 5) OR 96.28 + 22.5	OE method to find total area FOL their 3.9 and their 4.2		UCM22a
		1	118.78 (m^2)	ACO		UCM22a
		1	Their 118.78 ÷ 20 or 5(.939)	OE method to work out number of boxes Accept 119 ÷ 20 or 5(.95) FOL their 118.78 from a partial area calculation or complete area calculation		UN17b
		1	6 (boxes)	FOL the correct answer to their 118.78 ÷ 20 correctly rounded up to the nearest whole number		UN12a
Total: 45 marks						

Mapping Matrix

Totals	UN	UCM	HID	PS	UPS	SC
Section A	9	4	2	6	9	N/A
Section B	22	17	6	39	6	N/A
Total (%)	52%	35%	13%	75%	25%	23/31

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