TQUK Functional Skills Qualification in Maths at Level 1

Mark Scheme (Past Paper 7)

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 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: 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

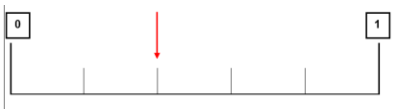
Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
1	1	1	49	ACO	UPS	UN6a
2	1	1	38.46	ACO	UPS	UN3b
3	1	1	3.39	ACO	UPS	UN11a
4	1	1	3.15	ACO	UPS	UN12c
5	2	2	150 (minutes)	**Award full marks if correct answer given**	UPS	
		1	2.5 × 60 OR 120 (minutes) or 30 (minutes)	OE method OR Correct partial conversion		UCM20e
		1	150 (minutes)	ACO		UCM20e
6	2	2	450	**Award full marks if correct answer given**	UPS	
		1	600 × 0.75 OR 600 × 0.25 or 150	OE method		UN14bii
		1	450	ACO		UN14bii
7	2	2	5200	**Award full marks if correct answer given**	UPS	
		1	(1250 + 8500 + 9000 + 1250 + 6000) ÷ 5	OE method Award if brackets omitted		HID29a
		1	5200	ACO		HID29a

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
8	2	2	No AND correct reason e.g. No AND 18 000 mm OR No AND 1.8 m	**Award full marks if correct answer and correct reason given**	PS	
		1	18 × 1000 OR 1800 ÷ 1000	OE method Award if any 1 correct conversion clearly seen e.g. 18 m = 1800 cm or 1800 mm = 180 cm		UCM20a
		1	No AND correct reason e.g. No AND 18 000 mm OR No AND 1.8 m	Accept No and any correct reason		UCM20a

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
9	3	3	(£)9.60	**Award full marks if correct answer given**	PS	
		Alternative Method 1 – Divide by 10 first				
		1	(£)8(.00)	ACO		UN3a
		1	Their 8 × 0.2 or 1.6 OR Their 8 × 1.2 or 9.6	OE method to find 20% or 20% increase FOL their 8		UN14bi
		1	(£)9.60	FOL the correct answer to their 8 × 1.2		UN14bi
		Alternative Method 2 – Percentage first				
		1	80 × 0.2 or 1.6 OR 80 × 1.2	OE method to find 20% or 20% increase		UN14bi
		1	(£)96	ACO Implies first mark		UN14bi
		1	(£)9.60	FOL the correct answer to their 96 ÷ 10		UN3a

Total: 15 marks

Section B: Calculator

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
1	1	1	4200	ACO	UPS	UCM20b
2	1	1	0.66	ACO	UPS	UN16
3	2	1	$\frac{2}{5}$	ACO OE fraction	UPS	HID31
		1		Accept any indication Mark intention FOL their $\frac{2}{5}$ if $0 <$ their $\frac{2}{5} < 1$		HID30a
4	2	2	No and [500 (m), 550 (m)]	**Award full marks if correct answer and correct reason given**	PS	
		1	5.2 × 100 or [500 (m), 550 (m)]	OE method to apply scale Accept use of 5.0 cm to 5.5 cm		UCM21
		1	No and [500 (m), 550 (m)]	Accept No AND any correct reason		UCM21
5	2	2	£45.90	**Award full marks if correct answer given**	PS	
		1	54 × 0.15 or 8.1(0) OR 54 × 0.85 or 45.9(0)	OE method to find 15% or 15% discount		UCM19
		1	£45.90	ACO Must give 2dp		UCM19

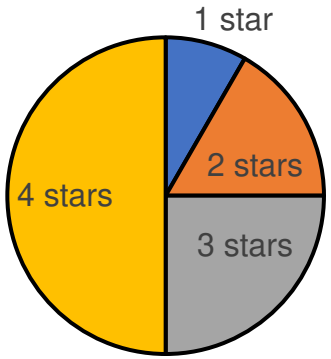
Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
6	2	2	A AND $\frac{35}{40}$ AND $\frac{32}{40}$ OR A AND 0.875 AND 0.8 OR A AND 87.5(%) AND 80(%)	**Award full marks if correct answer and correct reason given**	PS	
		1	$\frac{35}{40}$ AND $\frac{32}{40}$ OR 0.875 AND 0.8 OR 87.5(%) AND 80(%)	OE fractions or method that allows a direct comparison May find $\frac{7}{8}$ and $\frac{4}{5}$ of an integer		UN8a
		1	A AND $\frac{35}{40}$ AND $\frac{32}{40}$ OR A AND 0.875 AND 0.8 OR A AND 87.5(%) AND 80(%)	Accept A and any correct reason		UN8a

<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="4">7</td><td rowspan="4">2</td><td>2</td><td colspan="2">Award full marks for fully correct table</td><td rowspan="3">UPS</td><td></td></tr>
<tr><td>1</td><td>Any 2 frequencies correct
OR
Frequencies total 16</td><td>Do not award tallies without frequency</td><td>HID28a</td></tr>
<tr><td>1</td><td>All 4 frequencies</td><td>Do not award tallies without frequency</td><td>HID28a</td></tr>
<tr><td colspan="5"><table><tr><th>Number of pupils</th><th>Frequency</th></tr><tr><td>10 – 15</td><td>3</td></tr><tr><td>16 – 20</td><td>4</td></tr><tr><td>21 – 25</td><td>7</td></tr><tr><td>26 – 30</td><td>2</td></tr></table></td></tr>
<tr><td rowspan="4">8</td><td rowspan="4">3</td><td>3</td><td>(£)10 552.50</td><td>Award full marks if correct answer given</td><td rowspan="4">PS</td><td></td></tr>
<tr><td>1</td><td>10 050</td><td>ACO</td><td>UN1</td></tr>
<tr><td>1</td><td>Their 10 050 × 0.05 or 502.5
OR
Their 10 050 × 1.05 or
10 552.5</td><td>OE method
Accept e.g.
(Ten thousand and fifty) × 0.05
OR
(Ten thousand and fifty) × 1.05
FOL their 10 050 if their 10 050 starts with 10 and contains one 5 and a minimum of one other 0</td><td>UCM18</td></tr>
<tr><td>1</td><td>(£)10 552.50</td><td>FOL the correct answer to their 10 050 × 1.05 if their 10 050 starts with 10 and contains one 5 and a minimum of one other 0
Final answer must be 2dp if pence given</td><td>UCM18</td></tr>
</table>

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
9	3	3	No AND correct reason e.g. No AND 16.2(°C) OR No AND 57(°F) OR No AND 27 AND 25	**Award full marks if correct answer and correct reason given**	PS	
		1	59 – 32 or 27 OR 15 ÷ 0.6 or 25	OE method to apply one step of the rule forwards or in reverse		UN5b
		1	(59 – 32) × 0.6 OR 27 × 0.6 OR 15 ÷ 0.6 + 32 OR 25 + 32 OR 59 – 32 AND 15 ÷ 0.6	OE method to apply complete rule Award if 16.2(°C) or 57(°F) seen		UN5b
		1	No AND correct reason e.g. No AND 16.2(°C) OR No AND 57(°F) OR No AND 27 AND 25	Accept No AND any correct reason		UN5b

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
10	3	1	$\frac{1}{13}$	ACO May be seen or implied in subsequent working	PS	UN8a
		1	52 × their 13	OE method FOL their 13		UN4
		1	676 (flower bulbs)	ACO		UN4

11	4	4	20 250 (cm^3)	**Award full marks if correct answer given**	PS	
		1	30 × 30 × 30	OE method		UCM23
		1	27 000 (cm^3)	ACO Implies 1st mark		UCM23
		1	Their 27 000 × 3 ÷ 4	OE method FOL their 27 000		UN9
		1	20 250 (cm^3)	FOL the correct answer to their 27 000 × 3 ÷ 4		UN9

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
12	4	4	**Award full marks for fully correct pie chart**		PS	
		1	360 ÷ 120 × 10 or 30 OR 360 ÷ 120 × 20 or 60 OR 360 ÷ 120 × 30 or 90 OR 360 ÷ 120 × 60 or 180	Method to find at least one angle May be implied by one angle drawn correctly		HID27c
		1	30(°) and 60(°) and 90(°) and 180(°)	All 4 angles correct		HID27c
		1	At least one angle drawn correctly	Allow ± 2° tolerance Implies 1st mark		HID27c
		1	All 4 angles drawn correctly and labelled	Allow ± 2° tolerance Award full marks for fully correct pie chart		HID27c
						

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
13	5	1	5 × 3.4 or 17 OR 2.5 × 2.2 or 5.5	OE method to work out the area of one rectangle	PS	UCM22a
		1	5 × 3.4 + 2.5 × 2.2 OR 17 + 5.5	OE method to work out the total area		UCM22a
		1	22.5 (m^2)	ACO Area 22.5 implies first 2 marks		UCM22a
		1	Their 22.5 ÷ 4 or 5.625	OE method to work out number of tins FOL their 22.5		UN17b
		1	6 (tins)	FOL their 5.625 rounded up to the nearest whole number		UN12a
14	5	5	Yes AND (£)3528	**Award full marks if correct answer and correct reason given**	PS	
		1	24 × 0.6 OR 24 × 0.4 or 9.6(0)	OE Method to find discounted price for children		UCM19
		1	£14.4(0)	ACO 14.4 implies 1st mark		UCM19
		1	735 ÷ 3 or 245 (children's tickets)	OE method to apply ratio		UN17a
		1	Their 14.4 × their 245 or 3528	OE method to find total ticket sales FOL their 14.4 and their 245 3528 implies first 3 marks		UN2
		1	Yes AND (£)3528	Accept Yes AND any correct reason		UN1

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
15	6	6	No AND 27.36 (m)	**Award full marks if correct answer and correct reason given**	PS	
		1	8 – 5 or 3 OR 7.2 – 2.8 or 4.4	Finds missing side May be seen or implied in subsequent working		UCM22b
		1	7.2 + 8 + 2.8 + 5 + their 3 + their 4.4 OR (7.2 + 8) × 2	OE method to find perimeter FOL their 3 and their 4.4 (7.2 + 8) × 2 implies 1st mark		UCM22b
		1	30.4 (m)	ACO perimeter 30.4 implies first 2 marks		UCM22b
		1	Their 30.4 × 0.9	OE method FOL their 30.4		UN14a
		1	27.36 (m)	FOL the correct answer to their 30.4 × 0.8 27.36 implies 4th mark		UN14a
		1	No AND 27.36 (m)	Accept No AND any correct reason. FOL their 27.36 correctly compared with 27.5 if 27 < their 27.36 < 28		UN10

Total: 45 marks

Mapping Matrix

Totals	UN	UCM	HID	PS	UPS	SC
Section A	9	4	2	5	10	N/A
Section B	20	17	8	39	6	N/A
Total (%)	48%	35%	17%	73%	27%	25/31

Ofqual Mapping Requirements

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

End of Mark Scheme