

TQUK Functional Skills Qualification in Maths at Level 2

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 mark available for each question or sub question
- the individual subject content coverage and mapping of each question or subquestion 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: 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	3.067	ACO	UPS	UN10i
2	1	1	12.58	ACO	UPS	UN10ii
3	2	2	7.5 (miles)	Award full marks if correct		
				answer given	LIDC	
		1	12 ÷ 1.6	OE method	013	UCM14i
		1	7.5 (miles)	ACO		UCM14i
4	2	2	14	Award full marks if correct		
			103	answer given		
		1	112	OE fraction or probability e.g.		
			824	0.13(592) or 13.5(922)(%)	LIPS	HID27
		1	14	FOL their fraction correctly written in	010	
			103	its simplest form if their fraction can		
				be simplified and only if the first		ΠΙΟΖΙ
				mark not awarded		

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Q	Total	Marks	Answer/Examples	Further	PS/UPS	SC
	Marks			Considerations/Comments		
5	2	2	No AND 1 307 847 (tickets) OR No AND 615 307 (tickets) OR No AND 876	Award full marks if correct answer and correct reason given		
		1	1 307 847 OR 615 307 OR 876 846	ACO 615 307 from 1 400 000 – 784 693 876 846 from 1 400 000 – 523 154 Calculations with numbers above one million are not expected at Level 2 but award if seen	PS	UN2i
		1	No AND 1 307 847 (tickets) OR No AND 615 307 (tickets) OR No AND 876 846 (tickets)	Accept No AND any correct reason FOL their 1 307 847 correctly compared with 1 400 000 or Their 615 307 correctly compared with 523 154 or Their 876 846 correctly compared with 784 693		UN1

6	2	2	(£)300	Award full marks if correct answer given		
		1	240 ÷ 0.8	OE method	UP5	UN6b
		1	(£)300	ACO		UN6b

Q	Total	Marks	Answer/Examples	Further	PS/UPS	SC
	Marks			Considerations/Comments		
7	2	2	14 9	Award full marks if correct		
			20	answer given		
			Alternative	method 1		
		1	$(8)\frac{5}{20}(+)(6)\frac{4}{20}$ or $\frac{9}{20}$	Finds a common denominator OE fraction		UN7ii
		1	$14\frac{9}{20}$	ACO OE mixed number	UPS	UN7ii
			Alternative	method 2		
		1	$\frac{165}{20}$ (+) $\frac{124}{20}$ or $\frac{289}{20}$	Finds a common denominator OE fraction		UN7ii
		1	$14\frac{9}{20}$	ACO OE mixed number		UN7ii

8	3	3	965 (grams)	Award full marks if correct answer given		
		1	e.g. $19.3 = \frac{m}{50}$ OR e.g. m = d × v	OE method to substitute values into formula OR Correctly rearranges formula in terms of mass	PS	UCM15ii
		1	19.3 × 50	OE method Implies 1 st mark		UCM15ii
		1	965 (grams)	ACO		UCM15ii

Total: 15 marks

Section B: Calculator

Q	Total	Marks	Answer/Examples	Further	PS/UPS	SC
	Marks			Considerations/Comments		
9	1	1	Prism	ACO	UPS	UCM20
10	1	1	(-5, 3)	ACO	UPS	UCM19
11	2	2	Blue AND 11(.111)(%) OR Blue AND 0.11(111) and 0.12 OR Blue AND $\frac{25}{225}$ and $\frac{27}{225}$	Award full marks if correct answer given		
		1	11(.111)(%) OR 0.11(111) and 0.12 OR $\frac{25}{225}$ and $\frac{27}{225}$	OE method e.g. may find 12% and $\frac{1}{9}$ of an integer OE fractions which allow a direct comparison	PS	UN4
		1	Blue AND 11(.111)(%) OR Blue AND 0.11(111) and 0.12 OR Blue AND $\frac{25}{225}$ and $\frac{27}{225}$	Accept Blue and any correct reason OE fractions which allow a direct comparison		UN4

Q	Total	Marks	Answer/Examples	Further	PS/UPS	SC
	Marks			Considerations/Comments		
12	2	1	16 or 20 or 36 seen OR 12 or 3 seen	ACO Shows an understanding of BIDMAS 3 must come from 15 – 12 = 3		UN12
		1	12	ACO At least one other number from first mark needs to be seen in addition to 12 for both marks to be awarded	0F3	UN12

13	2	2	25(%)	Award full marks if correct		
				answer given		
		1	(1 – 0.8) ÷ 0.8 or 0.25	OE method	042	UN6a
		1	25(%)	ACO		UN6a

14	2	2	Yes AND 9 days	Award full marks if correct		
				answer and correct reason given	DC	
		1	3 × 6 ÷ 2 or 9 days	OE method	г о	UN11iii
		1	Yes AND 9 days	Accept Yes AND any correct reason		UN11iii

Q	Total	Marks	Answer/Examples	Further	PS/UPS	SC
	Marks			Considerations/Comments		
15	3	3	0.72 AND 72(%)	Award full marks if correct answer given		
		1	$\frac{36}{50}$	ACO OE fraction or probability e.g. 36 out of 50		HID26
		1	0.72 or 72(%)	FOL their fraction correctly converted to a decimal or a percentage	PS	HID27
		1	0.72 AND 72(%)	FOL their fraction correctly converted to a decimal or a percentage If one or zero scored, then award one mark special case if their decimal and percentage match each other		HID27
16	3	3	No AND 4.5 (kpb)	Award full marks if correct		
10	5		OR No AND 14 (km) OR No AND 214(.285) (mins) OR No AND 0.075 (kpm) AND 0.07 (kpm)	answer given		
		1	15 ÷ 200 or 0.075 (kilometres per min) OR 4.2 ÷ 60 or 0.07 (kilometres per min)	OE method Accept e.g. 200 ÷ 60 or 3.3(333) (hours) although not expected at Level 2	PS	UCM15i
		1	15 ÷ 200 × 60 OR Their 0.075 × 60 OR 4.2 ÷ 60 × 200 OR	OE method Accept 15 ÷ (200 ÷ 60)		UCM15i

	Their 0.07 × 200		
	OR		
	15 ÷ (4.2 ÷ 60)		
	OR		
	15 ÷ their 0.07		
	OR		
	15 ÷ 200 AND 4.2 ÷ 60		
1	No AND 4.5 (kph)	Accept No AND any correct reason	
	OR		
	No AND 14 (km)		
	OR		UCM15i
	No AND 214(.285) (mins)		
	OR		
	No AND 0.075 (kpm) AND 0.07 (kpm)		

Q	Total	Marks	Answer/Examples	Further	PS/UPS	SC
	Marks			Considerations/Comments		
17	3	1	3	ACO May be seen or implied in subsequent working e.g. 81 × 6		UN2ii
		1	4 × their 3 × 9 ² ÷ 2 OR 81 × 6	OE method to substitute their 3 into the formula Accept use of: 3.1, 3.14, 3.142 or 3.1416 for their 3	PS	UN3ii
		1	486 (cm ²)	ACO		UCM17ii

18	3	3	No AND correct reason E.g. No AND 120 (more small cups) OR No AND 10 (cups per part) AND 9 (cups per part) OR No AND 180 (cups in total)	Award full marks if correct answer and correct reason given		
		1	200 ÷ (14 + 4 + 2) or 10 (cups per part) OR 108 ÷ 12 or 9 (cup per part)	OE method to apply ratio		UN11i
		1	200 ÷ (14 + 4 + 2) × 14 or 140 (small cups) AND 200 ÷ (14 + 4 + 2) × 2 or 20 (large cups) OR 200 ÷ (14 + 4 + 2) AND 108 ÷ 12 OR 10 (cup per part) AND 9 (cups per part) OR 9 × 20 or 180 (cups in total)	OE method to find comparable figures Award if 120 (more small cups) seen	PS	UN11i
		1	No AND correct reason	Accept No AND any correct reason		UN11i

E.g.		
No AND 120 (more small cups)		
OR		
No AND 10 (cups per part) AND 9		
(cups per part)		
ÖR		
No AND 180 (cups in total)		

19	4	1	0.95 + 0.95 + 0.82 + 1.16 or 3.88 (m)	OE method to work out perimeter		UCM16ii
		1	Their 3.88 × 0.14 OR Their 3.88 × 1.14 OR 4.5 × 0.14 OR 4.5 × 0.86	OE method to work out percentage or percentage increase FOL their 3.88 from correct method for perimeter		UN5i
		1	0.5432 or 4.4232 OR 0.63 or 3.87	ACO 0.5432 OR 4.4232 Implies first 2 marks	PS	UN5i
		1	Yes AND correct reason E.g. Yes AND 4.4(232) (m) OR Yes AND 3.88 (m) AND 3.87 (m) OR Yes AND 0.5(432) (m) AND 0.6(3) (m)	Accept Yes AND any correct reason FOL correct comparison using their values if their comparison relies on a decimal comparison For example: 4 < their 4.4(232) < 5 then correctly compared with 4.5		UN9
			Q'U			

FSM_L2_MS_PASTPAPER8

Q	Total	Marks	Answer/Examples	Further	PS/UPS	SC
	Marks			Considerations/Comments		
20	4	1	36 OR 34	At least one correct mean		HID25
		1	38 OR 40	At least one correct median		HID25
		1	36 AND 34 AND 38 AND 40	ACO All 4 values correct		HID25
		1	Correct comment e.g. If they use mean, then Deepal is correct AND If they use median, then Billie is correct	Accept any correct comment relating to both mean and median	PS	HID25

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21	4	4	£108.55	Award full marks if correct answer given		
		1	5000 × 1.04 ²	OE method to work out compound interest Award if 200 and 208 seen OR 5200 and 208 seen		UCM13
		1	(£)5408	ACO Implies 1 st mark	DC	UCM13
		1 (9750 – their 5408) ÷ 40 OE method to work out monthly payments PS FOL their 5408	гJ	UCM13		
		1	£108.55	FOL the correct answer to (9750 – their 5408) ÷ 40 if their final answer is written in correct money format (e.g. 2dp if pence given)		UCM13
	L					

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Q	Total	Marks	Answer/Examples	Further	PS/UPS	SC
	Marks			Considerations/Comments		
22	5	5	6 (fish)	Award full marks if correct		
				answer given		
		1	3.14 × 3 × 3 × 1.1	OE method to work out volume		UCM17i
		1	31.086 (m ³)	ACO		LICM17i
				Implies 1 st mark		
		1	Their 31.086 × 220 ÷ 1000	OE method to substitute their		
			OR	volume into the formula		
			Their 31 × 220 ÷ 1000	Allow if they have rounded their		
				volume down to nearest whole	PS	UN3i
				number		
				Award if 7 fish seen for this mark		
				only		
		1	6.8(3892)	FOL the correct answer to 31.086 ×		
			OR	220 ÷ 1000		UN3i
			6.8(2)	6.8 implies first 3 marks		
		1	6 (fish)	FOL their 6.8(3892) or their 6.8(2)		
				correctly rounded down to the		UN9
				nearest whole number		

Q	Total	Marks	Answer/Examples Further		PS/UPS	SC
	Marks			Considerations/Comments		
23	6	1	$\frac{(22+25)23}{2}$ OR (22+25) × 23 ÷ 2	OE method to substitute dimensions into formula		UN3ii
		1	540.5 (m²)	ACO Area Implies 1 st mark		UCM16i
		1	Their 540.5 ÷ 2.6 or 207(.884) people	OE method FOL their 540.5 from correctly substituting values into formula		UN11ii
		1	(£)35	ACO Median	PS	HID23i
		1	Their 207 × their 35	OE method FOL their 207 after a division by 2.6 and rounding down to the nearest whole number FOL their 35 if in the range [20, 50]		UN9
		1	(£)7245	FOL the correct answer to their 207 × their 35 if their 207 comes from rounding their 207(.884) down to the nearest whole number FOL their 35 if in the range [20, 50]		UCM15iii

Total: 45 marks

Mapping Matrix

Totals	UN	UCM	HID	PS	UPS	SC
Section A	8	5	2	5	10	N/A
Section B	22	15	8	39	6	N/A
Total (%)	50%	33%	17%	73%	27%	22/28

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