

# **TQUK Functional Skills Qualification in Maths at Level 1**

## **Mark Scheme (Onscreen Paper 5)**

### **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 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 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.

## 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	0.8	ACO	UPS	UN3a
2	1	1	64	ACO	UPS	UN6a
3	1	1	19.12	ACO	UPS	UN11a
4	1	1	68	ACO	UPS	UN12a
5	2	2	17	<b>Award full marks if correct answer given</b>	UPS	
		1	5	Shows an understanding of BIDMAS Award if $10 \div 2$ attempted first, then 12 added to their answer		UN7
		1	17	ACO		UN7
6	2	2	$\frac{7}{12}, \frac{5}{8}, \frac{2}{3}, \frac{3}{4}$	<b>Award full marks if correct answer given</b>	UPS	
		1	$\frac{15}{24}, \frac{18}{24}, \frac{16}{24}, \frac{14}{24}$  OR Correctly ordered but from highest to lowest OR Any 3 in the correct order when one is covered up	Finds a common denominator. OE fraction  Accept e.g. 0.625; 0.75; 0.66...; 0.58...		UN8a
		1	$\frac{7}{12}, \frac{5}{8}, \frac{2}{3}, \frac{3}{4}$	ACO Accept fractions written in any format		UN8a

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
7	2	2	12.5 (kg)	<b>Award full marks if correct answer given</b>	UPS	
		1	$12\,500 \div 1000$	OE method		UCM20b
		1	12.5 (kg)	ACO		UCM20b

8	2	2	No AND (£)775	<b>Award full marks if correct answer given</b>	PS	
		1	$1575 - 800$	OE method		HID29b
		1	No AND (£)775	Accept No AND Any correct reason		HID29b

9	3	3	Yes AND 15 625 (cm <sup>3</sup> )	<b>Award full marks if correct answer given</b>	PS	
		1	$25 \times 25 \times 25$	OE method		UCM23
		1	15 625 (cm <sup>3</sup> )	ACO Implies 1 <sup>st</sup> mark		UCM23
		1	Yes AND 15 625 (cm <sup>3</sup> )	Accept Yes AND Any correct reason. FOL their 15 625 correctly compared with 15 000		UN1

<b>Total: 15 marks</b>
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**Section B: Calculator**

<b>Q</b>	<b>Total Marks</b>	<b>Marks</b>	<b>Answer/Examples</b>	<b>Further Considerations/Comments</b>	<b>PS/UPS</b>	<b>SC</b>
<b>1</b>	<b>2</b>	<b>2</b>	13 (books)	<b>Award full marks if correct answer given</b>	PS	
		1	$260 \times 0.05$	OE method		UN14bii
		1	13 (books)	ACO		UN14bii
<b>2</b>	<b>2</b>	<b>2</b>	83 500 (Yen)	<b>Award full marks if correct answer given</b>	UPS	
		1	$500 \times 167$	OE method		UN5a
		1	83 500 (Yen)	ACO		UN5a
<b>3</b>	<b>2</b>	<b>2</b>	370 000 (cm)	<b>Award full marks if correct answer given</b>	UPS	
		1	$3.7 \times 1000 \times 100$	OE method Award if 3700 metres seen		UCM20a
		1	370 000 (cm)	ACO		UCM20a

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
4	2	2	(Shop) B AND 20(%) OR (Shop) B AND 0.18 AND 0.2 OR (Shop) B AND $\frac{9}{50}$ AND $\frac{10}{50}$	<b>Award full marks if correct answer and correct reason given</b>	PS	
		1	20(%) OR 0.18 AND 0.2 OR $\frac{9}{50}$ AND $\frac{10}{50}$	OE method e.g. may find 18% and $\frac{1}{5}$ of an integer  OE fractions which allow a direct comparison		UN16
		1	(Shop) B AND 20(%) OR (Shop) B AND 0.18 AND 0.2 OR (Shop) B AND $\frac{9}{50}$ AND $\frac{10}{50}$	Accept (Shop) B and any correct reason  OE fractions which allow a direct comparison		UN16
5	2	2	288 (tiles)	<b>Award full marks if correct answer given</b>	PS	
		1	48 × 6	OE method		UN4
		1	288 (tiles)	ACO		UN4

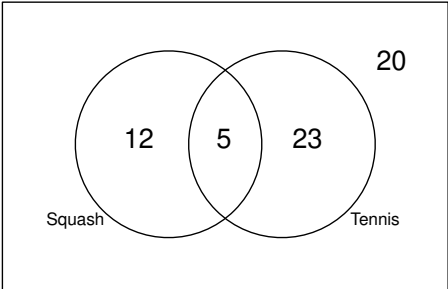
Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
6	2	2	3.75 hours OR 3 hours 45 mins OR $3\frac{3}{4}$ hours OR 225 mins	Award full marks if correct answer given	PS	
		1	3.5 (hours) or $3\frac{1}{2}$ (hours) OR 15 (mins) or 0.25 (hours) OR 3 (hours) 30 (minutes)	OE Any one correct time conversion		UCM20e
		1	3.75 hours OR 3 hours 45 mins OR $3\frac{3}{4}$ hours OR 225 mins	ACO UNIT		UCM20e
7	2	1	Isosceles triangle drawn	Mark intention	UPS	UCM24
		1	Line of symmetry drawn	Mark intention		UCM24

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
8	3	3	112 (carrots)	<b>Award full marks if correct answer given</b>	PS	
		1	$\frac{1}{15}$	ACO May be seen or implied in subsequent working		UN8a
		1	$120 \div \text{their } 15 (\times 14) \text{ or } 8$	OE method FOL their 15		UN9
		1	112 (carrots)	FOL the correct answer to $120 \div \text{their } 15 \times 14$		UN9
9	3	3	84 (cm <sup>3</sup> )	<b>Award full marks if correct answer given</b>	PS	
		1	10 – 2 – 2 or 6 OR 11 – 2 – 2 or 7	OE method		UCM25b
		1	2 × their 6 × their 7	OE method Accept $10 \times 11 \times 2$ or $8 \times 9 \times 2$ for this mark only		UCM23
		1	84 (cm <sup>3</sup> )	ACO		UCM23



Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
10	3	3	Yes AND 800 (km) OR Yes AND 20 (litres) AND 35 (litres) OR Yes AND 20 (km/litre) AND 17.5 (km/litre)	<b>Award full marks if correct answer and correct reason given</b>	PS	
		1	$120 \div 6$ or 20	OE method		UN17b
		1	$120 \div 6 \times 40$ or 800 OR Their $20 \times 40$ or 800 OR $700 \div$ their 20 or 35 OR $700 \div 40$ or 17.5	OE method		UN17b
		1	Yes AND 800 (km) OR Yes AND 20 (litres) AND 35 (litres) OR Yes AND 20 (km/litre) AND 17.5 (km/litre)	Accept Yes AND any correct reason		UN17b
11	4	4	505 (miles)	<b>Award full marks if correct answer and correct reason given</b>	PS	
		1	2018	ACO May be seen or implied in subsequent working		UN1
		1	Their $2018 \times 0.25$	OE method FOL their 2018		UN14a
		1	504.5	FOL the correct answer to their $2018 \times 0.25$ Implies first 2 marks		UN14a
		1	505 (miles)	FOL their 504.5 correctly rounded to the nearest whole number from a minimum of 1dp seen		UN12a

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC	
12	4	4	Award full marks if correct pie chart seen		PS		
		1	360 ÷ 36 × 12 or 120 OR 360 ÷ 36 × 18 or 180 OR 360 ÷ 36 × 6 or 60	Method to find at least one angle May be implied by one angle drawn correctly		HID27c	
		1	120(°) and 180(°) and 60(°)	All 3 angles correct		HID27c	
		1	At least one angle drawn correctly.	Allow ± 2° tolerance Implies 1 <sup>st</sup> mark		HID27c	
		1	All 4 angles drawn correctly and labelled	Allow ± 2° tolerance		HID27c	
		Favourite Exercises in a Gym					

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
13	4	4	28 (play tennis)	<b>Award full marks if correct answer given</b>	PS	
		1	12 (play squash only seen)	May be seen in correct place on Venn diagram		HID27b
		1	23 (play tennis only seen)	May be seen in correct place on Venn diagram		HID27b
		1		ACO  Fully correct Venn diagram		HID27b
		1	28 (play tennis)	FOL the correct answer to their 5 + their 23		HID27b

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
14	5	5	Yes AND (£)12.5(0) AND (£)12.35	<b>Award full marks if correct answer and correct reason given</b>	PS	
		1	$125 \div (1 + 9)$	OE method		UN17a
		1	(£)12.5(0)	ACO Implies 1 <sup>st</sup> mark		UN17a
		1	$19 \times 0.65$	OE method		UCM19
		1	(£)12.35	ACO Implies 3 <sup>rd</sup> mark		UCM19
		1	Yes AND (£)12.5(0) AND (£)12.35	Accept Yes AND any correct reason FOL the correct decision using their value if the decision depends on a decimal comparison e.g. $12 < \text{their values} < 13$		UN10

Q	Total Marks	Marks	Answer/Examples	Further Considerations/Comments	PS/UPS	SC
15	5	5	Correct instructions e.g. Turn right / East / clockwise [48, 52] (°) AND Walk 950	<b>Award full marks if correct answer and correct reason given</b>	PS	
		1	9.5 (cm)	ACO		UN12b
		1	Their 9.5 x 100	OE method FOL their 9.5		UCM21
		1	950 (m)	FOL the correct answer to their 9.5 × 100		UCM21
		1	(Angle =) [48, 52] (°)	ACO		UCM26b
		1	Correct instructions e.g. Turn right / East / clockwise [48, 52] (°) AND Walk 950 m	OE Instructions FOL their 950 and their [48, 52]		UCM26a

<b>Total: 45 marks</b>
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## Mapping Matrix

Totals	UN	UCM	HID	PS	UPS	SC
Section A	9	4	2	5	10	N/A
Section B	22	15	8	39	6	N/A
Total (%)	52%	32%	17%	73%	27%	22/31

## Ofqual Mapping Requirements

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

**End of Mark Scheme**