

Mark Scheme (Results)

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Pearson Edexcel Functional Skills
Mathematics Level 1 (FSM01)

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Guidance for Marking Functional Mathematics Papers

General

- All candidates must receive the same treatment. You must mark the first candidate in exactly the same way as you mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- All the marks on the mark scheme are designed to be awarded. You should always award full marks if deserved, i.e. if the answer matches the mark scheme. You should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.

Applying the Mark Scheme

- The mark scheme has a column for **Process** and a column for **Evidence**. In most questions the majority of marks are awarded for the process the candidate uses to reach an answer. The evidence column shows the most likely examples you will see: if the candidate gives different evidence for the process, you should award the mark(s).
- **Finding 'the answer'**: in written papers, the demand (question) box should always be checked as candidates often write their 'final' answer or decision there. Some questions require the candidate to give a clear statement of the answer or make a decision, in addition to working. These are always clear in the mark scheme.
- If working is **crossed out and still legible**, then it should be marked, as long as it has not been replaced by alternative work.
- If there is a **choice of methods** shown, then mark the working leading to the answer given in the answer box or working box. If there is no definitive answer then marks should be awarded for the 'lowest' scoring method shown.
- A suspected **misread** may still gain process marks.
- It may be appropriate to **ignore subsequent work** (isw) when the candidate's additional work does not change the meaning of their answer. You are less likely to see instances of this in functional mathematics.
- You will often see correct working followed by an incorrect decision, showing that the candidate can calculate but does not understand the demand of the functional question. The mark scheme will make clear how to mark these questions.
- **Transcription** errors occur when the candidate presents a correct answer in working, and writes it incorrectly on the answer line; mark the better answer.
- **Follow through marks** must only be awarded when explicitly allowed in the mark scheme. Where the process uses the candidate's answer from a previous step, this is clearly shown. Speech marks are used to show that previously incorrect numerical work is being followed through, for example '**240**' means **their** 240.
- Marks can usually be awarded where **units** are not shown. Where units, including money, are required this will be stated explicitly. For example, 5(m) or (£)256.4 indicates that the units do not have to be stated for the mark to be awarded.
- **Correct money notation** indicates that the answer, in money, must have correct notation to gain the mark. This means that money should be shown as £ or p, with the decimal point correct and 2 decimal places if appropriate.

e.g. if the question working led to £12÷5,

Mark as correct: £2.40 240p £2.40p 2.40E

Mark as incorrect: £2.4 2.40p £240p 2.4 2.40 240

- Candidates may present their answers or working in many **equivalent** ways. This is denoted **o.e.** in the mark scheme. Repeated addition for multiplication and repeated subtraction for division are common alternative approaches. The mark scheme will specify the minimum required to award these marks.
- A **range** of answers is often allowed :
 - [12.5,105] is the inclusive closed interval
 - (12.5,105) is the exclusive open interval
- **Parts of questions:** because most FS questions are unstructured and open, you should be prepared to award marks for answers seen in later parts of a question, even if not explicit in the expected part.
- Discuss any queries with your Team Leader.

- **Graphs**

The mark schemes for most graph questions have this structure:

Process		Evidence
Appropriate graph or chart – (e.g. bar, stick, line graph)	1 or	1 of: linear scale(s), labels, plotting (2mm tolerance)
	2 or	2 of: linear scale(s), labels, plotting (2mm tolerance)
	3	all of: linear scale(s), labels, plotting (2mm tolerance)

The mark scheme will explain what is appropriate for the data being plotted.

A **linear scale** must be linear **in the range where data is plotted**, whether or not it is broken, whether or not 0 is shown, whether or not the scale is shown as broken. Thus a graph that is 'fit for purpose' in that the **data is displayed clearly and values can be**

read, will gain credit.

The minimum requirements for **labels** will be given, but you should give credit if a title is given which makes the label obvious.

Plotting must be correct for the candidate's scale. Award the mark for plotting if you can read the values clearly, even if the

scale itself is not linear.

The mark schemes for **Data Collection Sheets** refer to **input opportunities** and to **efficient input opportunities**. When a candidate gives an input opportunity, it is likely to be an empty cell in a table, it may be an instruction to 'circle your choice', or it may require writing in the data in words. These become efficient, for example, if there is a well-structured 2-way table, or the input is a tick or a tally rather than a written list.

Section A: Birdwatching

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q1(a)	R1	Begins to find total price for seed or feeders	1	A	$2 \times 6.95 (= 13.9(0))$ OR $3 \times 3.10 (= 9.3(0))$
	A4	Process to find total	1 or	B	'13.9(0)' + '9.3(0)'(=23.2(0))
	I6	Correct total with correct money notation	2	BC	£23.20 (correct money notation)
Q1(b)	R2	Begins to process membership costs to costs per year for one person or total cost per month	1 or	D	e.g. $4 \times 12 (= 48)$ or $3 \times 12 (= 36)$ OR $4 + 4 + 3 (= 11)$ OR $126 \div 12 (= 10.5)$
	A4	Process to find figures to compare	2 or	DE	'48' + '48' + '36' (=132) OR '11' \times 12 (=132) OR $4 + 4 + 3 (= 11)$ and $126 \div 12 (= 10.5)$
	I6	Correct decision with accurate figures	3	DEF	Family and (£)132 OR Family and (£)11 and (£)10.5(0) per month
	A5	Shows a valid check	1	G	Check by reverse calculation or alternative method
Total marks for question			7		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q2(a)	A4	Process to draw angle or 1 length	1 or	H	Draws 1 right angle on the base (± 2 degrees) or 1 correct side length (± 2 mm)
	I6	Begins to draw lengths	2 or	HJ	Draws 1 right angle on the base (± 2 degrees) and 1 correct side length (± 2 mm)
	R2	Full drawn diagram	3	HJK	Full correct diagram
Q2(b)	I6	Correct measurement in correct units	1	L	13 cm (with correct units) OR 130 mm (with correct units) Allow ft provided their measurement is accurate for their drawing NB All lengths ± 2 mm
Total marks for question			4		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q3	R2	Identifies 3 hours at viewing points	1	M	3×1 or 3 hours oe or use of 3 (hours) in time calculation oe May be seen in later calculations
	I6	Begins to find a journey time or route or time available at the park	1 or	N	Adds at least two consecutive path times together (may be seen with or without viewing times) e.g. $15+35(=50)$ OR Adds one path time to 9am or subtracts one path time from 2pm e.g. $9 + 15 \text{ (min) } (=9:15)$ or $9 + 45 \text{ (min)}(=9:45)$ oe or $2 - 15 \text{ (min) } (=1:45)$ or $2 - 45 \text{ (min) } (=1:15)$ O route beginning and ending at Entrance, visiting all viewing points, with or without repeated paths (may be indicated on diagram) OR 9am to 2pm (= 5 hrs)
	R3	Begins process to find figures to compare	2 or	NP	e.g. $3 \text{ (hrs) } + 15 \text{ (mins) } + 35 \text{ (mins) } + 30 \text{ (mins) } + 45 \text{ (mins)}$ $(= 5 \text{ hrs } 5 \text{ mins})$ oe or $15 \text{ (mins) } + 35 \text{ (mins) } + 30 \text{ (mins) } + 45 \text{ (mins)}$ $(=2 \text{ hrs } 5 \text{ mins})$ or (125 mins)
	A4	Full process to find figures to compare for correct route	3 or	NPQ	e.g. $9\text{am} + 3 \text{ (hrs) } + 15 \text{ (mins) } + 35 \text{ (mins) } + 30 \text{ (mins) } + 45 \text{ (mins)}$ $(= 2:05(\text{pm}))$ OR $2\text{pm} - 3 \text{ (hrs) } - 45 \text{ (mins) } - 30 \text{ (mins) } - 35 \text{ (mins) } - 15 \text{ (mins)}$ $(= 8:55 \text{ (am) })$ OR 9am to 2pm (= 5 hrs) and 5 hrs 5 mins
	I6	Decision with correct figures	4	NPQR	No and 2:05 (pm) OR No and 8:55(am) OR No and 5(hrs) and 5(hrs) 5(mins) OR Yes and Explanation about 5 mins difference NB If awarding R award M
Total marks for question			5		

Section B: Lowton United Football Club

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q4(a)	R1	Process to read from diagram or assign points to match outcomes	1 or	A	8 wins or 6 drawn or 10 lost oe OR 3 for a win and 1 for a draw shown on the diagram (0 may or may not be seen) OR Strategy to add scores or may be seen on diagram
	A4	Process to find total points	2 or	AB	$1 + 1 + (0 + 0 + 0) + 3 + (0) + 3 + 3 + 3 + 3 + 1 + (0) + 1 + (0) + 3 + 3 + 1 + (0 + 0 + 0) + 3 + (0) + 1 (=30)$ Allow 1 error or omission OR '8' \times 3 + '6' \times 1 + ('10' \times 0) (=30) oe
	I6	Correct answer	3	ABC	30
Q4(b)	I6	Selects likelihood	1	D	Unlikely
Total marks for question			4		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q5(a)	A4	Starts to complete graph	1 or	E	1 of: linear scale completed, labels, plotting (2 mm tolerance) Labels should be 'Matches' and 'Tickets' or 'Sales'
	R2	Develops graph	2 or	EF	2 of: linear scale completed, labels, plotting (2 mm tolerance)
	I6	Fully correct graph	3	EFG	All of: linear scale completed, labels, plotting (2 mm tolerance)
Q5(b)	I6	Suitable comment	1	H	Suitable comment e.g. Attendances are increasing (except for a drop in week 2) OR Most people attended in week 6
Total marks for question			4		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q6(a)	A4	Begins to work with averages	1 or	J	$6400 + 5600 + 6200 + 6800 + 7200 + 8300 (= 40500)$ OR $6500 \times 6(=39000)$
	R1	Full process to find average or figures to compare	2 or	JK	'40500' $\div 6 (= 6750)$ OR $6400 + 5600 + 6200 + 6800 + 7200 + 8300 (= 40500)$ and $6500 \times 6(=39000)$
	I6	Correct decision from accurate figures	3	JKL	Yes and 6750 OR Yes and 40500 and 39000 NB Median acceptable for full marks
	A5	Shows a valid check	1	M	Check by reverse calculation, alternate method or approximation
Q6(b)	R3	Begins to work with prices of adult or junior tickets	1 or	N	$4600 \times 22 (= 101200)$ OR $3700 \times 8(=29600)$
	A4	Develops solution	2 or	NP	'101200' + '29600' (=130 800) OR '101200' $\div 25(=4048)$ OR '29600' $\div 25(=1184)$
	A4	Full process to find number of adult tickets needed	3 or	NPQ	'130 800' $\div 25(=5232)$ OR '4048' + '1184' (=5232)
	I6	Finds adult tickets needed	4	NPQR	5232 (adult tickets)
Total marks for question			8		

Section C: Lawn care

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q7(a)	R2	Substitute into formula	1 or	A	$100 \times 25 \div 1000 (=2.5)$ o.e.
	I6	Accurate figure	2	AB	2.5 (litres)
	A5	Valid check	1	C	Check by reverse calculation or alternative method
Q7(b)	R3	Process to find area	1 or	D	Counting squares indicated on diagram OR $4 \times 6 (=24)$
	I6	Finds correct area	2	DE	$24(\text{m}^2)$
	A4	Process to work with fractions	1 or	F	$100 \div 4 (= 25)$ oe OR $4 \times '24' (= 96)$ OR ' $\frac{24}{100}$ ' or 4.16.. or $\frac{25}{100}$ oe
	I6	Correct decision from their figures	2	FG	Yes AND '24' and 25 OR Yes AND 96 OR Yes AND ' $\frac{24}{100}$ ', and $\frac{25}{100}$ Allow No with a valid statement
Total marks for question			7		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q8	A4	Works with consistent units	1	H	e.g. 50cm = 0.5m OR 20m = 2000cm May be seen in subsequent working
	R1	Process to find perimeter or edging along one side or edging along semi perimeter	1 or	J	e.g. 4+ 6+4+6 (=20) oe OR '600' ÷ 50(=12) oe. OR '400' ÷ 50(=8) oe. OR ('600' + '400') ÷ 50(=20) OR Fitting strips indicated on diagram
	R3	Complete process to find number of strips or finds the cost for the edging along one side or along semi perimeter	2 or	JK	e.g. '2000' ÷ 50 (= 40) oe OR ('12' + '8') × 2 (=40) OR e.g. '12' × 3 (=36) OR '20' × 3 (=60)
	A4	Full process to find the cost of the strips.	3 or	JKL	e.g. 3 × '40' (=120) OR '60' × 2 (=120)
	I6	Finds the cost of the strips	4	JKLM	(£)120 Award H if M awarded
Total marks for question			5		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q9(a)	A4	Process to find 20%	1 or	N	$20 \div 100 \times 150 (=30)$ oe
	R1	Accurate figure	2	NP	(£)30
Q9(b)	A4	Full process to find figures to compare	1 or	Q	$800 \div 6 (=133(.33..))$ OR $140 \times 6 (=840)$ OR $800 \div 140 (=5.71..)$
	I6	Correct decision with accurate figures	2	QR	No and (£)133(.33..) OR No and (£)840 OR No and 5.7(1..) (months)
Total marks for question			4		

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