

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- If working is **crossed out and still legible**, then it should be marked, as long as it has not been replaced by alternative work.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 marks should be awarded for the 'best' answer.
- 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 indicate 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 $£12 \div 5$,

Mark as correct: £2.40 240p £2.40p

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 (2 mm tolerance)
	2 or	2 of linear scale(s), labels, plotting (2 mm tolerance)
	3	all of linear scale(s), labels, plotting (2 mm 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: Rabbits

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q1(a)	A4	Records information on a bar chart	1	A	2014 shown and bar at 92
Q1(b)	R2	Process to read information from graph	1	B	Three of 68, 76, 82, 88
	A4	Process to add 5 results from graph	1 or	C	'68' + '76' + '82' + '88' + 92 (= 406)
	I6	Correct answer from correct figures	2	CD	406 from correct figures
Q1(c)	I6	Correct comment about change	1	E	e.g. It is increasing
Q1(d)	R1	Begins to design data collection sheet	1 or	F	Input opportunities and at least one of: male / female, large/ medium / small
	R2	Develops data collection sheet	2 or	FG	Input opportunities and all of: male / female, large/ medium / small may be an individual record sheet.
	I6	Checks and presents efficient data collection sheet	3	FGH	Efficient input opportunities and all of: male / female, large/ medium / small in 6 categories.
Total marks for question			8		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q2(a)	R1	Considers constraints	1	J	Draws two rectangles with 2 of: all at least 2 squares from fence rectangles joined on one edge one joined to house
	A4	Draws rectangles	1 or	K	Draws one rectangle 6 by 2 OR 8 by 4
	R2	Draws both rectangles	2 or	KL	Draws both rectangles 6 by 2 AND 8 by 4
	I6	Fully correct drawing	3	KLM	Draws both rectangles 6 by 2 AND 8 by 4 AND 2 squares from the fence, joined on one edge, one joined to house.
Q2(b)	A4	Works in consistent units	1	N	3000 (g) OR 2000 (g) OR 0.025 (kg) OR 0.05 (kg) (May be seen in subsequent working)
	R2	Process to calculate amount per day or number of 25g portions	1 or	P	'25' × 2 (= 50 g) per day OR '3000' ÷ 25 (= 120) OR '3000' ÷ 35 (=87.7...)
	A4	Finds numbers to compare	2 or	PQ	'50' × 35 (= 1750) OR '3000' ÷ '50' (= 60) OR '120' ÷ 2 (= 60) OR '3' ÷ '0.05' (= 60) OR '25' × 2 (= 50g) and '3000' ÷ 35 (=87.7...g per day)
	I6	Correct decision from accurate figures	3	PQR	Yes and only 1.75 (kg) needed OR Yes and 1750 (g) and 3000 (g) OR Yes and 60 days OR Yes and 50 (g) and 87.7...(g) If this mark is awarded, also award mark N
Total marks for question			8		

Section B: A trip to Lenster

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q3	R2	Process to work with fractions	1 or	A	$0.5 \times 19 (= 9.5)$
	A4	Process to work with Group Saver Offer	2	AB	$0.5 \times 4 \times 19 (= 38)$ o.e
	R3	Process to add extra child to group of 4	1	C	'38' +1(= 39)
	A4	Full process to calculate cost using standard price.	1	D	$(2 \times 19) + (3 \times 7.25) (= 59.75)$
	I6	Process to find saving from their calculated figures	1 or	E	'59.75' - ' 39' (=20.75) Condone £38
	I6	Correct decision with accurate figure	2	EF	Yes and (£)20.75
Total marks for question			6		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q4(a)	R1	Identifies a Mid England train which arrives between 10 am and 10:30 am	1	G	09:12 OR 10:18 May be marked on timetable
	A4	Process to work with fraction and time	1 or	H	15 + 20 (=35) OR any train time – 15 or – 35
	I6	Correct time to leave home	2	HJ	08:37(am) Any common time format
Q4(b)	R1	Finds a route to Clock tower	1 or	K	Identifies two of: W, X, Acres Lane or East Park
	I6	Finds complete route with only 1 change.	2	KL	Identifies all of: W AND X AND Acres Lane or East Park
Total marks for question			5		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q5(a)	I6	Interprets chance	1	M	Indicates Unlikely
Q5(b)	R1	Starts to work with prices.	1 or	N	E.g. $5 \times 2.45 (= 12.25)$ OR $5 \times 1.65 (= 8.25)$ OR $5 \times 1.75 (=8.75)$ OR $2 \times 1.65 + 3 \times 1.75(=8.55)$ OR $2.45 + 1.65(=4.10)$ OR $2.45 + 1.75(=4.20)$ D r i 8 n . k 7 s 5 8.65 8.55 8.45 8.35 8.25
	A4	Complete process to find total for drinks and potatoes.	2 or	NP	E.g. ' 12.25 ' + ' 8.25 '(= 20.50) OR $5 \times '4.20'$ (= 21) FT provided N awarded
	I6	Finds correct total cost for their choice of drinks with correct money notation	3	NPQ	$\pounds 20.50$ or $\pounds 20.60$ or $\pounds 20.70$ or $\pounds 20.80$ or $\pounds 20.90$ or $\pounds 21$ or $\pounds 21.00$ With correct money notation
	A5	Checks any part of their working by reverse calculation, alternate method or different route.	1	R	e.g. $20.5 - 12.25$
Total marks for question			5		

Section C: Plastering

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q6(a)	R1	Works with ratio	1 or	A	$25 \times 5 (=125)$ Build up methods with up to 1 error or omission.
	I6	Finds accurate figure	2	AB	125 (kg)
Q6(b)	R1	Begins to substitute in formula or find amount in 4 bags	1 or	C	$32 \times 5 (=160)$ OR $32 \div 2 (= 16)$ OR $4 \times 25 (=100)$
	A4	Complete substitution or begins reverse substitution	2 or	CD	$32 \times 5 \div 2 (=80)$ OR '100' $\times 2 (= 200)$ OR '100' $\div 5 (=20)$
	A4	Complete process to find figures to compare	3 or	CDE	$32 \times 5 \div 2 (=80)$ and $4 \times 25 (=100)$ OR '80' $\div 25 (=3.2)$ OR '100' $\times 2 \div 5 (=40)$ OR '80' $\div 4 (=20)$
	I6	Correct decision with accurate figures to compare	4	CDEF	Yes and 80 (kg) and 100 (kg) OR Yes and 3.2 (bags) OR Yes and 40 (m ²) Yes and needs 20 (has 25 kg in a bag) Yes and 80 (kg) and 20 kg over
Total marks for question			6		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q7(a)	R2	Process to find area OR metres covered for £300	1 or	G	$5 \times 3 (=15)$ OR marks squares on diagram OR $£300 \div 23 (= 13.04\dots)$
	A4	Complete process to find figures to compare	2 or	GH	'15' $\times 23 (=345)$ OR $5 \times 3 (=15)$ and $£300 \div 23 (= 13.04\dots)$ OR $£300 \div '15' (=20)$ NB No credit for perimeter methods
	I6	Correct decision from accurate figures	3	GHJ	No and (£)345 OR No and (£)45 short OR No and 15 (m ²) and 13 (m ²) OR No and he would charge (£)20 (per m ²)
Q7 (b)	A4	Full process to calculate percentage	1 or	K	E.g. $0.2 \times 300 (=60)$ OR 360
	I6	Correct amount of VAT	2	KL	(£)60
Total marks for question			5		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q8	A4	Works with consistent units	1	M	7200 mm OR 4800 mm OR 1.2 m or 2.4 m OR Converts at least mm and one m to cm Maybe seen in subsequent working
	R1	Process to find number of sheets along 1 side OR area of sheet or ceiling	1 or	N	'7200' ÷ 1200 (=6) OR '4800' ÷ 2400 (=2) OR '4800' ÷ 1200(=4) OR '72000' ÷ 2400 (=3) OR 1200 × 2400 (= 2880000) OR 7.2 × 4.8 (=34.56) OR 7.2 ÷ '1.2'(=6) etc. o.e NB: Repeated addition may be used. Working may be seen on diagram
	R2	Process to find no. of sheets along both sides or area of sheet and ceiling	2	NP	'7200' ÷ 1200 (=6) AND '4800' ÷ 2400 (=2) OR '4800' ÷ 1200(=4) AND '72000' ÷ 2400 (=3) OR 1200 × 2400 (=2880000) AND 7200 × 4800 (=34560000) OR 7.2 ÷ '1.2'(=6) AND 4.8 ÷ '2.4' (= 2) o.e NB: Repeated addition may be used. Working may be seen on diagram
	A4	Process to find number of sheets needed	1 or	Q	'6' × '2'(=12) OR '3' × '4'(=12) OR Allow '34560000' ÷ '2880000'(= 12)
	I6	Correct number of sheets from convincing method	2	QR	12 Working must be seen If this mark is awarded, award mark M
Total marks for question			5		

