

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- If working is **crossed out and still legible**, then it should be marked, as long as it has not been replaced by alternative work.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 (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: Summer fair

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q1(a)	I6	Makes a valid comment	1	A	E.g. Yes and amounts increasing oe OR No/don't know weather might be bad and people might not come or people might have less money this year or fair might be on same day as something else
Q1(b)	R1	Draws a graph or chart	1 or	B	1 of: linear scale, labels, plotting (2 mm tolerance)
	A4	Improves graph or chart	2 or	BC	2 of: linear scale, labels, plotting (2 mm tolerance)
	I6	Completes graph	3	BCD	All of: linear scale, labels, plotting (2 mm tolerance) labels: year, amount or £, may be seen in a title.
Total marks for question			4		
Q2 (a)	R3	Process to find scale or grams/cake	1 or	E	$360 \div 12(=30)$ or $180 \div 12(=15)$ or $0.18 \div 12(=0.015)$
	A4	Process to find flour needed	2 or	EF	'30' \times 180(=5400) or '15' \times 360(=5400) or '0.015' \times 360(=5.4)
	I6	Finds correct weight of flour	3	EFG	5400 g or 5.4 kg Correct units required.
Q2(b)	R2	Works with time or slots needed	1 or	H	$45 \times 5(=225)$ OR '4' \times 60(=240) OR $60 \div 5(=12)$
	A4	Process to find figures to compare	2 or	HJ	'4' \times 60(=240) and $45 \times 5(=225)$ OR '12' \times 4(=48) OR '225' \div 60(=3.75) and 4 OR '240' \div 45(=5.33..)
	I6	Valid decision and correct figures	3	HJK	E.g. Yes AND 225 and 240 (mins) OR 48 (tours) OR 3.75 (hrs) and 4 (hrs) OR 5.33.. minutes per tour
Total marks for question			6		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q3	R1	Process to find cost of teddy bears	1	L	$2 \times 4.75 (=9.5)$
	R2	Process to find cost of popcorn	1	M	$3 \times 2.8 (=8.4)$
	A4	Process to find total cost or money left	1 or	N	'9.5' + '8.4' + 4.6(=22.5) OR 40 – One of: '9.5' or '8.4' or 4.6
	I6	Process to find money left	2 or	NP	40 – '22.5' (=17.5)
	I6	Correct answer in correct notation	3	NPQ	£17.50 (correct money notation)
	A5	Shows a valid check	1	R	Any reverse calculation e.g. $17.50 + 22.5 = 40$ or $9.5 \div 2 = 4.75$
Total marks for question			6		

Section B: Salon treatments

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q4	R2	Begins to consider durations	1 or	A	Shows start and finish times for any 2 treatments where elapsed time is correct and client is available (finish time may be implied by next start time).
	A4	Considers at least 4 durations	2	AB	Shows start and finish times for any 4 treatments where elapsed time is correct and client is available (finish time may be implied by next start time).
	I6	Considers all durations with meal break	1 or	C	Allows suitable time between at least 3 treatments.
	A5	Considers time between treatments	2	CD	Fully correct time plan with appointments between 10 am and 6 pm when client is available with correct durations, gaps of at least 15 minutes and a meal break.
	I6	Clearly presented accurate time plan	1	E	Clearly presented sequentially ordered time plan including start times for 5 treatments.
Total marks for question			5		
Q5(a)	R3	Works with ratio	1 or	F	$80 \div 4 (=20)$ or 4 parts or 60 or shows at least 2 more equivalent ratios e.g. 2:6, 3:9, 4:12, 10:30, 15:45
	A4	Correct answer shown	2	FG	20(ml)
Q5(b)	I6	Selects a correct date	1	H	19 or 21 or 26 or 28 (June) AND no other dates

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q 5(c)	R2	Uses consistent units	1	J	Uses 0.2 or 5000 or 6 or 5 treatments in 1 litre
	A4	Process to find figures to compare	1 or	K	'5000' ÷ 200(=25) OR 5 ÷ '0.2'(=25) OR 30 × 200(=6000) OR 30 × '0.2'(=6) OR '5000' ÷ 30(=166.6..) OR complete build up method
	I6	Correct decision from correct figures NB Award all 3 marks if correct solution is seen.	2	KL	No and 25 (treatments) OR No and 5000 (ml) and 6000 (ml) OR No and 6 (litres) OR No and 166.6.. (ml) NB Award all 3 marks if correct solution is seen.
Q5(d)	R1	Process to find discount	1 or	M	45 ÷ 5(=9) oe OR 0.8 × 45(=36) OR complete build up method
	A4	Finds 20% discount	2	MN	(£)9
Total marks for question			8		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q6	R1	Interprets problem	1 or	P	2 of: Input opportunities and time heading or at least 2 of: morning, afternoon, evening client heading or men and women
	I6	Improves solution	2 or	PQ	All of: Input opportunities for At least 2 of: morning, afternoon, evening. Both men and women Allow questionnaire 2 marks only
	I6	Completes solution	3	PQR	All of: Efficient input opportunities for All of: morning, afternoon, evening Both men and women.
Total marks for question			3		

Section C: The new baby's bedroom

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
7(a)	R3	Process to find price at Golden Cot Beds	1	A	$269 - 70(=199)$
	A4	Full process to find price at cotbedsonline.com	1	B	$40 + (52 \times 3)(=196)$
	A4	Process to find cost at Nursery World	1	C	$9 \times 24(=216)$
	I6	Correct figures to compare	1	D	199 and 196 and 216
	I6	Correct decision, ft provided 2 of marks A, B or C are awarded	1	E	E.g. cotbedsonline.com and (£)196 Ft. Decision, provided 2 of marks A, B or C are awarded
7(b)	R1	Begins to use scale.	1 or	F	Rectangle with 2 of: correct length, correct width, suitable distance from window, suitable distance from radiator
	A4	Improves diagram	2 or	FG	Rectangle with 3 of: correct length, correct width, suitable distance from window, suitable distance from radiator
	I6	Fully correct solution	3	FGH	Rectangle with all of: Length 6 sq, width 3sq, 1 sq from window, 4 sq from radiator
	R2	Draws play mat on plan	1	J	Square of side 4 sqs AND not touching radiator.
Total marks for question			9		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
8(a)	R1	Substitutes in rule or begins to reverse process	1 or	K	$8 \times 20(=160)$ OR $200 - 75(=125)$
	A4	Full process	2 or	KL	'160' + 75(=235) OR '125' \div 8(=15.625) OR '125' \div 20(=6.25) OR $200 - '160'(=40)$
	I6	Valid decision with accurate figures	3	KLM	No and (£)235 OR No and (£) 15.625 (£ per hour) OR No and 6.25 (hours) OR No and (£)40 (cost of paint)
8(b)	I6	Identifies length of carpet needed.	1	N	Uses 3 or 3.5
	R2	Process to calculate area of carpet	1 or	P	$4 \times 3(=12)$ OR $4 \times 3.5(=14)$ OR Allow $3.5 \times 3(=10.5)$
	A4	Process to calculate cost of carpet	2 or	PQ	'12' \times 12.95(=155.4) OR '14' \times 12.95(=181.3)
	I6	Finds correct cost	3	PQR	(£)155.4(0) OR (£)181.3(0)
Total marks for question			7		

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