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- If working is **crossed out and still legible**, then it should be marked, as long as it has not been replaced by alternative work.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

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q1a	R1	Process to find amount of new pay per week or current pay per hour	1 or	A	7.98 × 42(=335.16) **OR** 798 × 42(=33516) **OR** 304.50 ÷ 42(=7.25)
	I6	Correct decision and accurate figures	2	AB	Yes **and** (£)335.16 **OR** Yes **and** (£)7.25
	A5	Appropriate checking procedure	1	C	E.g. reverse calculation or alternate method or estimation or shows that Fresco pay > current pay by subtraction.
Q1b	R2	Works with number of Saturdays	1 or	D	Eg: 52 ÷ 4 **OR** 4 × 13 (=52) **OR** 4 × 13 × 7(=364) **OR** 7 × 4(=28) **OR** If build up seen, needs to be at least 28 weeks or more **OR** Allow 4 × 12 (= 48) for this mark only
	A4	Decision with correct figures	2	DE	Yes **and** 52 ÷ 4 = 13 **OR** Yes **and** 4 × 13 = 52 **OR** Yes **and** 364 **OR** Yes **and** 365÷28=13
		Total marks for question	5		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q2	R2	Begins to use timetable	1 or	F	Gives both departure and arrival times for a bus **OR** Gives both departure and arrival times for a train **OR** Gives a departure time for a bus **and** gives departure **or** arrival time for a suitable train
	A5	Coordinates timetable accurately	2	FG	Gives both departure and arrival times for a bus **AND** Gives both departure and arrival times for a train leaving Stafford later than the bus arrival
	A4	Process to account for 20 minutes walking	1 or	H	Chooses train arriving before 10:55 **OR** 11:15 – 20 mins (=10:55) as the time to arrive in Birmingham **OR** 10:27 + 20 mins (=10:47) **or** 10:47 + 20 mins (=11:07)
	I6	Complete and correct sequential time plan	2	HJ	E.g. EW: 9:15, SS 9:45 **and** SS 10:03, BS 10:27 Arrival at fresco 1047
		Total marks for question	4		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q3a	R1	Process to find %	1 or	K	0.1 × 305(=30.5) oe OR 1.1 × 305(=335.5)
	A4	Accurate figure with correct money notation	2	KL	£30.50 in correct money notation
Q3b	R1	Process to work with single journey price or daily price	1 or	M	8 × 2.20(=17.60) **OR** 4 × 4(=16.00) **OR** 2.20 × 2(=4.40) **OR** 4 ÷ 2(=2) **OR** 19 ÷ 4(=4.75) **OR** 4 × 2.20(=8.80)
	I6	Full process to find comparable values for a method of bus travel	2	MN	One method of bus travel is compared to the other methods of bus travel E.g. 19 ÷ 8 (=2.375) **and** 4 ÷ 2(=2) (2.20 given) This is comparing the cost of a single journey. 2.20 × 2(=4.40) **and** 19 ÷ 4(=4.75) (4 given) This is comparing the cost of daily return. 8 × 2.20(=17.60) **and** 4 × 4(=16.00) (19 given) This is comparing the cost of weekly travel.
	R2	Begins to find cost of using car	1 or	P	Multiplies at least two of: 4, 2, 6, 0.39
	A4	Completes process to find cost using car	2	PQ	4 × 2 × 6 × 0.39(=18.72) **OR** '48'× 0.39(=18.72) **OR**

	I6	Decision based on correct figures	1	R	'2.34' × 2 × 4(=18.72) Daily bus pass **and** (£)16(.00) **and** (£) 18.72
Total marks for question			**7**		

Section B: Music competition

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q4	R3	Interprets problem	1 or	A	Input opportunities **AND** at least headings for instruments **or** age groups.
	A4	Improves solution	2 or	AB	All of: Input opportunities for All of: Singing, Piano, Guitar, Any other instrument Under 14 years, 14 to 18 years, Over 18 years May be a questionnaire
	I6	Completes solution	3	ABC	All of: Efficient input opportunities for All of: Singing, Piano, Guitar, Any other instrument Under 14 years, 14 to 18 years, Over 18 years
Total marks for question			**3**		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q5	R2	Process to find time needed	1	D	eg: 1 + 10am to 3pm + 1(=7)
	A4	Starts process to find cheapest price for hall	1	E	'7' (hours) × 18.00(=126)
	R1	Process to find income	1	F	2.75 × 65(=178.75)
	A4	Full process to find total cost	1 or	G	'126' + 40(=166) **OR** 150 + 40(=190) **OR** '178.75' − 40(=138.75)
	I6	Find correct figures	2	GH	178.75 or 179 or 178 **AND** 166 **OR** 178.75 **AND** 190 **OR** 138.75 **AND** 126
	I6	Valid decision from their figures	1	J	Yes **AND** (£)178.75 **and** (£)166 **OR** Yes **AND** (£)138.75 **and** (£)126 **OR** No **AND** (£)178.75 **and** (£)190 Ft their figures provided marks F and G are awarded
		Total marks for question	6		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q6a	R3	Starts process to work out area	1 or	K	Indication of counting squares **OR** 5 × 10(=50) **OR** 2 × 5 × 10 (=100)
	I6	Correct solution	2	KL	50 + 50(=100) (chairs) **OR** 50 is defined for the left hand area and 50 is defined for the right hand area
Q6b	A4	Process to draw wheelchair places	1 or	M	At least two 2×2 squares drawn anywhere on plan **OR** Shades a rectangle with area of 12 squares
	I6	Completes process by placing wheelchair spaces correctly	2	MN	Three 2×2 squares drawn at the end of the rows **and** within designated seating area
Q6c	R3	Starts process to find number of chairs removed and how many people can be seated	1 or	P	Counts 4 squares per wheelchair **AND** multiplies 4 × 3(=12) **AND** Ft. Their total from Question 6a, provided mark K has been awarded '100' − 12(=88) **OR** counts 88 squares
	A4	Continues process adding wheelchair users	2 or	PQ	'88' + 3(=91)
	I6	Correct decision with correct figure	3	PQR	No **and** 91
Total marks for question			**7**		

Section C: The care home

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q7a	R1	Starts process to find price	1 or	A	6.50 ÷2(=3.25)
	A4	Continues process to find price	2 or	AB	6.50 + '3.25'(=9.75) **OR** 6.50 × 1.5(=9.75)
	I6	Correct cost	3	C	(£)9.75
Q7b	R3	Starts process to find fraction or starts to use ratio	1 or	D	1 + 4=5 **OR** 1/5 **OR** uses build up method (at least 3)
	A4	Continues process to find fraction or starts to use ratio	2 or	DE	1/5 × 2000 (=400) **OR** 2000 ÷ 5(=400) **OR** Complete build up method
	I6	Completes process to find amount of juice	3	DEF	400(ml)
	I6	Puts mark on jug	1	G	Places line in correct place 400ml **OR** Places a line from a juice number in the answer box. Follow through.
Total marks for question			**7**		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q8a	A4	Process to correctly convert measurement	1	H	eg: 1000 + 600=1.6 or 1.6 ×1000 = 1600 or 1600 ÷ 1000 =1.6
Q8b	R1	Starts process to find total	1	J	6 + 9 + 8 + 8 + 9+ 7+ 4(=51) **OR** 1600 × 7(=11200) (total they should drink in a week) **OR** 6 × 200 **or** 9 × 200 **or** 8 × 200 **or** 7 × 200 **or** 4 × 200
	A4	Process to find mean	1	K	'51' ÷ 7(=7.258...) **OR** '51' × 200(=10200) **OR** 6 × 200 **+** 9 × 200 **+** 8 × 200 **+** 8 × 200 + 9 × 200 **+** 7 × 200 + 4 × 200(=10200) **OR** 6 × 0.2 **+** 9 × 0.2 + 8 × 0.2 + 8 × 0.2 + 9 × 0. 2 + 7 × 0.2 + 4 × 0.2(=10.2)
	R2	Process to find number of cups required	1	L	1600/200(=8) **OR** '7.2' × 200(=[1440,1460] **OR** '10200' ÷ 7 (= 1457.14...) **OR** '10.2' ÷ 7 (= 1.45...)
	I6	Finds accurate figures to compare	1	M	7.2 **and** 8 **OR** [1440, 1460] (ml) or [1.44, 1.46] (l) or 1.5 (l)
	I6	Correct decision	1	N	Yes (Ted is correct) Provided J mark is awarded
Total marks for question			6		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q9	R1	Begins to draw graph	1 or	P	One of : Linear scale, labels, plotting (± 2 mm)
	R2	Improves graph	2 or	PQ	Two of : Linear scale, labels, plotting (± 2 mm)
	I6	Completes graph	3	PQR	All of : Linear scale, labels, plotting (± 2 mm) Labels required:- Names, Edward, Mary etc or Resident 1 Resident 2 etc Number of cups
		Total marks for question	**3**		