

# Mark Scheme (Results)

June 2015

Pearson Edexcel Functional Skills  
Mathematics Level 1 (FSM01)

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June 2015

Publications Code FC042129

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- If working is **crossed out and still legible**, then it should be marked, as long as it has not been replaced by alternative work.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

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	
1 or	1 of:

– (e.g. bar, stick, line graph)		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: Weekend in Manchester**

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q1(a)	R1	Considers criteria	1 or	A	Indicates train that stops at Buckshaw Parkway (may be marked on timetable) <b>OR</b> converts time to 18:00 or 20:00 <b>OR</b> anytime on timetable converted to pm
	I6	Selects a correct train	2	AB	1815 <b>or</b> 1917 <b>or</b> both oe Accept any common time format

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q1(b)	R1	Process for room cost or dinner costs	1 or	C	$120 \times 3 (=360)$ <b>OR</b> $9.50 \times 4 \times 3 (=114)$ <b>OR</b> $9.50 \times 4 (=38)$ <b>OR</b> $9.50 \times 3 (=28.5)$ <b>OR</b> $4 \times 3 (=12)$ <b>OR</b> Complete repeated subtraction from 500 for room <b>or</b> dinners <b>OR</b> $500 \div 3 (=166.66)$
	A4	Process for room cost and dinner costs	2 or	CD	$120 \times 3 (=360)$ <b>AND</b> $9.50 \times 4 \times 3 (=114)$ <b>OR</b> Allow $120 \times 3 (=360)$ <b>AND</b> $9.50 \times 4 (=38)$ <b>OR</b> Allow $120 \times 3 (=360)$ <b>AND</b> $9.50 \times 3 (=28.5)$ <b>OR</b> $120 + '38' (=158)$
	A4	Full process for total cost or costs to compare	3	CDE	$'360' + '114' (=474)$ <b>OR</b> Complete repeated subtraction from 500 for room <b>and</b> dinners <b>OR</b> $120 + '38' (=158)$ <b>and</b> $500 \div 3 (=166.66..)$
	I6	Correct decision from their figures	1	F	Yes <b>and</b> (£)474 <b>or</b> Yes <b>and</b> (£)26 (spare) <b>OR</b> Yes <b>and</b> (£)158 <b>and</b> (£)166.67 per night
<b>Total marks for question</b>			<b>6</b>		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q2(a)	R1	Starts to work with formula	1 or	G	$3 \times 1.85 (=5.55)$ <b>OR</b> $8 - 2.30 (=5.70)$
	A4	Completes substitution	2 or	GH	'5.55' + 2.30 (=7.85) <b>OR</b> '5.70' ÷ 1.85 (=3.08) <b>OR</b> '5.70' ÷ 3(=1.90) <b>OR</b> $8 - '5.55' (=2.45)$
	I6	Correct decision and accurate figures	3	GHJ	Yes <b>and</b> (£)7.85 <b>OR</b> Yes <b>and</b> 15p oe change <b>OR</b> Yes <b>and</b> 3.08 (miles) <b>OR</b> Yes <b>and</b> (£)1.90 <b>OR</b> Yes <b>and</b> (£)2.45
Q2(b)	R3	Shows full process with fraction	1 or	K	$\frac{3}{4} \times 60000 (=45000)$ oe <b>OR</b> $40000 \div 60000 (= \frac{2}{3})$ oe <b>OR</b> $40000 \times \frac{4}{3} (=53333)$
	I6	Correct decision with accurate figure	2	KL	No <b>and</b> 45000 <b>OR</b> No <b>and</b> $\frac{2}{3}$ <b>or</b> $\frac{4}{6}$ <b>OR</b> No <b>and</b> 40000 is $\frac{3}{4}$ of 53333 <b>OR</b> No <b>and</b> puts both fractions with common denominators or as percentages oe
<b>Total marks for question</b>			<b>5</b>		



Question	Skills Standard	Process	Mark	Mark Grid	Evidence
<b>Q3</b>	R3	Uses information from table and starts to consider durations	1 or	M	Shows correct duration for any 2 activities (start time may be implied by start of preparation time)
	A4	Considers all durations	2	MN	Shows correct duration for all 4 activities (start time may be implied by start of preparation time)
	R2	Starts to consider time between activities	1	P	Shows Boot Camp last and lunch time between 12 and 2pm
	A5	Considers time between all activities	1 or	Q	Allows suitable preparation for at least 3 activities (may be implied in finish time to next start time)
	I6	Fully correct sequential accurate time plan	2	QR	Fully correct functional sequential time plan, first activity no earlier than 10:30 final activity Boot Camp at 16.30 all start times included, all prep included, and lunch included
<b>Total marks for question</b>			<b>5</b>		

**Section B: Selling fruit**

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
<b>Q4(a)</b>	R2	Uses conversion	1 or	A	$2 \times 1.20 (=2.40)$ <b>or</b> $500\text{g} = 0.5 \text{ kg}$
	A4	Combines costs	2 or	AB	'2.40' + 1.90 (=4.30)
	I6	Correct answer with correct money notation	3	ABC	£4.30 Correct money notation
<b>Q4(b)</b>	R3	Process to find number of apples in bags of 6	1 or	D	$20 \times 6 (=120)$
	A4	Process to find number of unbagged apples	2 or	DE	$400 - '120' (=280)$
	A4	Process to find number of bags of 4	3	DEF	'280' $\div$ 4
	I6	Correct answer	1	G	70 (bags) Accept 90 (bags)
<b>Total marks for question</b>			<b>7</b>		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
<b>Q5(a)</b>	R1	Starts process for mean or median	1 or	H	$33 + 36 + 24 + 16 + 35 + 30 (=174)$ <b>OR</b> $30 \times 6 (=180)$ <b>OR</b> $\pm 3 \pm 6 \pm 6 \pm 14 \pm 5 (\pm 0)$ <b>OR</b> 16, 24, 30, 33, 35, 36
	A4	Complete process to calculate mean or median	2 or	HJ	'174' $\div 6 (=29)$ <b>OR</b> 174 <b>and</b> 180 <b>OR</b> $3 + 6 - 6 - 14 + 5 + (0) (= - 6)$ <b>OR</b> $(30 + 33) \div 2 (=31.5)$
	I6	Valid decision and accurate figures	3	HJK	No <b>and</b> 29 <b>OR</b> No <b>and</b> 180 <b>and</b> 174 <b>OR</b> No <b>and</b> - 6 <b>OR</b> Yes <b>and</b> 31.5
<b>Q5(b)</b>	R1	Process to work with percentage	1 or	L	$0.15 \times 640 (=96)$ oe <b>OR</b> Complete build up method <b>OR</b> Allow $0.85 \times 640 (=544)$ oe
	A4	Finds correct charge	2	LM	(£)96
<b>Total marks for question</b>			<b>5</b>		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q6(a)	I6	Interprets graph	1	N	E.g. feedback score improving (after initial drop) <b>or</b> All feedback above 3 <b>or</b> Most gave satisfactory or better
Q6(b)	R2	Process to find kg/g per £ or £/p per kg	1 or	P	30 ÷ 5(=6) <b>OR</b> 5 ÷ 30(=0.16..) <b>OR</b> 22 ÷ 4(=5.5) <b>OR</b> 4 ÷ 22(=0.181...)
	A4	Full process to find figures to compare	2 or	PQ	30 ÷ 5(=6) <b>and</b> 22 ÷ 4(=5.5) <b>OR</b> 5 ÷ 30(=0.16..) <b>and</b> 4 ÷ 22(=0.181..) <b>OR</b> 30 ÷ 5 × 4 (=24) <b>OR</b> 22 ÷ 4 × 5 (=27.5)
	I6	Correct decision with correct figures	3	PQR	No <b>AND</b> 6 <b>and</b> 5.5 (£ per kg) <b>OR</b> No <b>AND</b> 0.16... <b>and</b> 0.18... (kg per £) <b>OR</b> No <b>AND</b> the 4 kg would cost £24 <b>OR</b> No <b>AND</b> the 5 kg would cost £27.50  May work throughout in grams but must be consistent.
<b>Total marks for question</b>			<b>4</b>		

Section C: Mike's garden

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q7(a)	R1	Starts to draw space for playhouse	1 or	A	A rectangle with 2 of: Length 4, Width 3, in a corner
	I6	Space for playhouse drawn with correct dimensions and in correct position	2	AB	Rectangle with all of: Length 4, Width 3, in a corner
	I6	Starts to draw space for trampoline	1 or	C	Square with side 3 or 5
	A5	Space for trampoline drawn with correct dimensions	2	CD	Square with sides 3 with 2 squares clear all round <b>OR</b> square with sides 7

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q7(b)	A4	Uses consistent units	1	E	400 or 200 or 1.8 May be seen in subsequent working
	R3	Process to calculate perimeter or to work with length of edging	1 or	F	$(\text{'400'} \times 2) + (\text{'200'} \times 2)(=1200)$ <b>or</b> $(4 \times 2) + (2 \times 2)(=12)$ oe <b>OR</b> $\text{'400'} \div 180(=2.22..)$ <b>or</b> $\text{'200'} \div 180(= 1.11..)$ oe
	A4	Process to find number packs	2	FG	$\text{'1200'} \div 180(=6.66..)$ oe <b>OR</b> Repeated addition of 1.8 at least 6 times <b>OR</b> $2 \times (\text{'2.22..' + '1.11..'}) (=6.66..)$
	I6	Correct number of packs ft. from their figures	1	H	7 (packs) <b>OR</b> rounds 'decimal answer' up to whole number (must come from a complete correct method)
<b>Total marks for question</b>			<b>8</b>		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
<b>Q8</b>	R3	Works with instalments	1 or	J	$99.95 \times 12 (=1199.40)$ <b>OR</b> $100 \times 12(=1200)$
	A4	Process to find cost at Playhouses.com	2	JK	'1199.4' + 50(=1249.40)
	R2	Works with fraction or total price at MJ playhouses	1 or	L	$1650 \div 2(=825)$ Condone $1650 + 145 + 200(=1995)$
	A4	Works with fraction and total price	2	LM	'825' + 145 + 200(=1170) Condone '1995' $\div 2(=997.5)$
	I6	Correct decision and accurate figures	1	N	MJ Playhouses <b>AND</b> (£)1249.4 <b>and</b> (£)1170 <b>OR</b> MJ playhouses <b>AND</b> (£)1250 <b>and</b> (£)1170
<b>Total marks for question</b>			<b>5</b>		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q9(a)	R2	Works with ratio	1 or	P	$12 \div 3 (=4)$ <b>OR</b> $5 \times 3 (=15)$ <b>OR</b> $12:5=2.4:1$ oe <b>OR</b> $12 \div 5 = 2.4$ compared with 3 Full build up method e.g. 1, 3    2, 6    3, 9 4,12    (5,15)
	I6	Correct decision with accurate figs	2	PQ	No <b>and</b> 4 grass (needed) <b>OR</b> No <b>and</b> 15 leaves (needed) No <b>and</b> $1 : 2.4 \neq 1 : 3$
Q9(b)	A5	Appropriate check	1	R	Reverse calculation or alternative method
<b>Total marks for question</b>			<b>3</b>		



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