

Mark Scheme (Results)

Functional Skills Mathematics
Level 1 (MAT01)

Set 1

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Set 1

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Guidance for Marking Functional Mathematics Onscreen

General

- 1 All candidates must receive the same treatment. You must mark the first candidate in exactly the same way as you mark the last.
- 2 Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- 3 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 onscreen tests, many questions have a mechanism for the candidate to give their decision or answer, as well as the working box. In most cases the marks are awarded for the process which leads to the answer. Full marks cannot be gained from simply clicking the correct answer. You must read what is in the working box. You may need to award marks for an answer which is only stated in the working box.

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 Marker Leader / Assistant Marker Leader.

Graphs

The mark schemes for most graph questions have this structure:

Process	Evidence
1 or	1 of linear scale(s), labels, plotting
2 or	2 of linear scale(s), labels, plotting
3	all of linear scale(s), labels, plotting

Note that the mechanism usually restricts the candidate's choice of graph.

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.

Question	Process	Mark	Evidence
Q1	Interprets problem	1 or	Input opportunities for three of: start/before or , finish/end or, heart rate, bleep test, step test
	Interprets and solves problem by considering criteria fully	2	Fully accurate table with 6 efficient input opportunities Condone multiple people
Total marks for question		2	

Question	Process	Mark	Evidence
Q3	Begins to tackle problem by calculating area	1	$7 \times 3 (=21)$
	Works out number of bricks needed from consideration of area. OR area covered by 1000 bricks	1	'21' x 60 (=1260) OR $1000/60 (=16.66)$
	Decision from correct figures	1	A valid comparison using correct figures. No, he needs 1260 bricks OR 1000 bricks only covers $16.66..m^2$
Total marks for question		3	

Question	Process	Mark	Evidence
Q5	Works with formula	1 or	3x40 (= 120) OR 7 pm - 30 mins (=6:30 (pm))
	Finds the total number of minutes OR if reverse checking uses the first part of formula	2	'120' + 30 (= 150) OR Subtracts three successive lots of 40 mins from '6:30pm', condone one error
	Converts all or part of the total time to hours for ease of use	1	'150' mins (= 2 hours 30mins) OR Subtracts three successive lots of 40 mins from '6:30 pm'
	Correct time seen in answer box	1	4:30 pm (award full marks if correct answer and conversion to hours and mins for 3 rd mark is not seen.)
Total marks for question		4	Allow use of 24hr clock

Question	Process	Mark	Evidence
Q6	Calculates 1/3 or 2/3	1 or	69.99/3(=23.33) OR 69.99/3x2(=46.66)
	Correctly compares % and fraction Calculates discount or printer price Works with %	2	compares 1/3 and 10% 23.33 or 46.66
	Calculates discount or printer price	1 or	0.1 x 69.99 (=6.99 or 6.999 or 7) OR 0.9x69.99(=62.99 or 63)
	Correct voucher based on valid reasoning- must score Q06a and Q06c	2	6.99 or 6.999 or 7 or 62.99 or 63 1/3 off - must score Q06a and Q06c
	Makes correct decision upon comparison	1	States explicitly that 1/3 >10% Note: ignore any reference to the use of the £20 off voucher
Total marks for question		5	

Question	Process	Mark	Evidence
Q8(a)	Identifies appropriate row in table	1	Selects either of 3-4 months or 4-5 months OR clearly states 3-4 or 4-5 months in the working box
Q8(b)	Selects mathematics to begin to solve problem	1 or	210/7 (= 30) or 180/6 (=30) o.e using last two columns of table
		2	30 cao
Total marks for question		3	

Question	Process	Mark	Evidence
Q9	Adds up daily sales or	1	$310+250+275+340+900(=2075)$ OR
	Begins to reverse check from mean Kim's mean sales or	1	$415 \times 5(=2075)$ '2075' / 5(=415) OR $400 \times 5(=2000)$
	Finds minimum weekly sales needed for bonus		
	Completes check	1	415 from working OR 2075 and 2000
Total marks for question		3	

Question	Process	Mark	Evidence
Q10	Starts to draw graph	1 or	1 of: plotting (accuracy 1 small division), increasing linear scale, labels (condone missing title, condone x and y labels on axes)
	Improves graph	2 or	2 of: plotting (accuracy 1 small division), increasing linear scale, labels (condone missing title, condone x and y labels on axes)
	Complete graph	3	3 of: plotting (accuracy 1 small division), increasing linear scale, labels (condone missing title, condone x and y labels on axes)
Total marks for question		3	

Question	Process	Mark	Evidence
Q12	Method to calculate total cost of rolls from Sue's shop.	1	$52.80+7.50 (=60.30)$
	Finding the number of packets of rolls to buy from Bob's shop	1 or	$240/6=(40)$ OR $1.80/6=(0.30)$
	Finding the cost of 1 roll from Bob's shop Method to calculate total cost of rolls from Bob's shop	2	'40'x1.80(=72) OR $0.30 \times 240(=72)$
	States correct total cost for both suppliers	1	60.30 and 72 (condone 60.3)
	Interprets their working correctly to enable a comparison. (ft)	1	Sue's shop is cheaper
Total marks for question		5	

Maximum Mark	40
Pass Mark	23