

# Mark Scheme (Results)

October 2011

Functional Skills Mathematics  
Level 1 (FSM01)

Edexcel is one of the leading examining and awarding bodies in the UK and throughout the world. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers.

Through a network of UK and overseas offices, Edexcel's centres receive the support they need to help them deliver their education and training programmes to learners.

For further information, please call our GCE line on 0844 576 0025, our GCSE team on 0844 576 0027, or visit our website at [www.edexcel.com](http://www.edexcel.com).

If you have any subject specific questions about the content of this Examiners' Report that require the help of a subject specialist, you may find our **Ask The Expert** email service helpful.

Ask The Expert can be accessed online at the following link:  
<http://www.edexcel.com/Aboutus/contact-us/>

October 2011  
Publications Code FC029845

All the material in this publication is copyright  
© Edexcel Ltd 2011



## 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- If working is **crossed out and still legible**, then it should be marked, as long as it has not been replaced by alternative work.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	1 of
	or	linear scale(s), labels, plotting (2mm tolerance)
	2	2 of
	or	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: Garden**

Question	Process	Mark	Mark Grid	Evidence
<b>Q1 (a)</b>	Draws vegetable plot on plan	1 or	A	Two of: 1 or 2 rectangles $3 \times 2$ ; one at least 1m from fence; one at least 1m from hedge; one at least 6 m from house 2 rectangles <b>and</b> at least three of: both $3 \times 2$ ; both at least 1m from fence; both at least 1m from hedge; both at least 6 m from house All of: 2 rectangles $3 \times 2$ ; both at least 1m from fence; both at least 1m from hedge; both at least 6 m from house
	Considers some criteria	2 or	AB	
	Considers all criteria	3	ABC	
<b>Q1 (b)</b>	Finds area	1	D	$79(\text{m}^2)$ <b>or</b> ft from (b)
<b>Q1 (c)</b>	Starts to calculate cost	1 or	E	$7 \times 11.5 (=80.5)$ <b>or</b> 80.5 <b>or</b> £80.50p £80.50 correct money notation
	Finds total cost	2	EF	
<b>Total marks for question</b>		<b>6</b>		

Question	Process	Mark	Mark Grid	Evidence
<b>Q2(a)</b>	Lists vegetables	1	G	Any 2 of aubergine, carrot, parsnip, pepper (with no incorrect extras)
<b>Q2(b)</b>	Uses information from table	1 or	H	$10 \div 3$ <b>or</b> (3, 6, )9 <b>or</b> 3.3(33..) <b>or</b> diagram showing <b>or</b> $10 \div 4 (=2.5)$ <b>or</b> max of 3 seeds in a bag <b>or</b> $4 \times 3 (= 12)$ <b>or</b> $3+3+3+1$ Clear statement - 4 growbags/ room for 12 /she is right
	Correct conclusion	2	HJ	
<b>Q2(c)</b>	Consistent units	1 or	K	$2 \times 100(=200)$ <b>or</b> $30 \div 100(=0.3)$ <b>or</b> evidence of seeds being planted 30 cm apart (may be a diagram) $200 \div 30 (=6.666\dots)$ <b>or</b> $2 \div 0.3 (=6.666\dots)$ <b>or</b> 6 remainder 2 <b>or</b> evidence of at least 6 or 7 seeds planted 30 cm apart <b>or</b> 6 remainder 2 6 or 7
	Calculates no. in row	2	KL	
	Gives number in a row	1	M	
<b>Total marks for question</b>		<b>6</b>		

Question	Process	Mark	Mark Grid	Evidence
<b>Q3</b>	Calculates number of bags needed	1 or	N	100 ÷ 30 (=3.33...) <b>or</b> 4 of 30 litre bags <b>or</b> 100 ÷ 60 (=1.66...) <b>or</b> 2 of 60 litre bags <b>or</b> 100 ÷ 25 <b>or</b> 4 of 25 litre bags <b>or</b> uses '2 for 1' offer <b>or</b> uses '4 for the price of 3' offer Correct calculation for 1 option one of '4'×2.45 (=9.8) <b>or</b> '2'÷2 × 9.28 (=9.28) <b>or</b> 3×3.19 (=9.57) <b>or</b> 4×3.19 (=12.76) 9.8(0) and 9.28 and 9.57 (£)9.28 from correct figures <b>or</b> ft from three comparable figures. At least mark P scored
	Works out cost of 1 option	2 or	NP	
	Work out all 3 costs	3	NPQ	
	Decision based on calculation	1	R	
<b>Total marks for question</b>		<b>4</b>		

### Section B: Quiz

Question	Process	Mark	Mark Grid	Evidence
<b>Q4 (a)</b>	Finds mean or total from reverse check	1 or	A	(240+300+280+180+320+270)(=1590) ÷ 6 (=265) <b>OR</b> 280×6 (=1680) £265 <b>OR</b> 1590 <b>and</b> 1680 Decision ft from supporting working. At least mark A scored
	Correct mean or totals	2	AB	
	Decision	1	C	
<b>Q4(b)</b>	Appropriate graph - bar graph (accept pictograph or line graph)	1 or	D	One of: Linear scale, labels, plotting ± 1 square Two of: Linear scale, labels, plotting ± 1 square All of: Linear scale, labels, plotting ± 1 square
		2 or	DE	
		3	DEF	
<b>Total marks for question</b>		<b>6</b>		



Question	Process	Mark	Mark Grid	Evidence
Q5 (a)	Interprets problem – one features	1 or	G	<b>One of:</b> Space for 5 or 6 names, input opportunities for main course or 3 main course options, input opportunities for dessert or 2 dessert options <b>OR</b> two-way table <b>Two of:</b> Space for 5 or 6 names, input opportunities for main course or 3 main course options, input opportunities for dessert or 2 dessert options <b>OR</b> two-way table with main course and dessert <b>All of:</b> Space for 6 names, input opportunities for main course or 3 main course options, separate input opportunities for dessert or 2 dessert options.
	Two features	2 or	GH	
	All three features	3	GHJ	
Q5 (b)	Uses information in question to find number of packs of rolls	1 or	K	$90 \div 8 (=11.25)$ <b>or</b> $91 \div 8 (=11.375)$ <b>or</b> works with whole packs of rolls <b>or</b> $12 \times 8 (=96)$ <b>or</b> counting up in 8s until at least 88 12
	Finds correct number of packs of rolls	2	KL	
Q5 (c)	Interprets information from question and begins to find amount of money spent or money left over	1 or	M	$900 - 600 - 6 \times 5 (=270)$ (£)270
	Correct calculation	2	MN	
<b>Total marks for question</b>		<b>7</b>		

Question	Process	Mark	Mark Grid	Evidence
Q6	Begins to interpret information from question by totalling right or totalling wrong <b>OR</b> considering a score per round	1 or	P	$8+7+5+5+4+9 (=38)$ <b>or</b> $2+3+5+5+6+1 (=22)$ <b>or</b> at least 4 of $8\times 5, 7\times 5, 5\times 5, 5\times 5, 4\times 5, 9\times 5$ <b>or</b> at least 4 of $2\times 2, 3\times 2, 5\times 2, 5\times 2, 6\times 2, 1\times 2$ <b>or</b> $38\times 5 (=190)$ <b>or</b> $22\times 2 (=44)$ <b>or</b> 36 or 29 or 15 or 8 or 43
	Interprets given information, finds total number of right and total number of wrong <b>or</b> begins to work out number of points gained <b>or</b> number of points to be deducted <b>or</b> process to add scores per round	2 or	PQ	$8+7+5+5+4+9 (=38)$ <b>and</b> $2+3+5+5+6+1 (=22)$ <b>or</b> at least 4 of $8\times 5, 7\times 5, 5\times 5, 5\times 5, 4\times 5, 9\times 5$ <b>and</b> at least 4 of $2\times 2, 3\times 2, 5\times 2, 5\times 2, 6\times 2, 1\times 2$ <b>or</b> $38\times 5 (=190)$ <b>and</b> $22\times 2 (=44)$ <b>or</b> $190 - 44$ <b>or</b> $36+29+15+15+8+43$
	Finds correct score	3	PQR	146 (points)
<b>Total marks for question</b>		<b>3</b>		

**Section C: Holiday in Rome**

Question	Process	Mark	Mark Grid	Evidence
<b>Q7 (a)</b>	Applies criteria	1 or	A	One of 14:15 from Heathrow and 15:00 from Rome <b>or</b> 84 <b>or</b> 177 (may be circled in table)
	Correct flights found	2	AB	Both of 14:15 from Heathrow and 15:00 from Rome <b>or</b> 84 <b>and</b> 177 (may be circled in table)
<b>Q7 (b)</b>	Uses 3 nights or flight costs <b>or</b> budget	1 or	C	'84' + '177' (= 261) <b>or</b> 3 × 75 (=225) or 500 – flight cost / budget (=239)
	Right total <b>or</b> right remaining amount	2	CD	'486' <b>or</b> '14' ft from (a) <b>or</b> '239' and 225
	Decision ft from valid working	1	E	Decision ft from valid working (a) using candidate's chosen flights and 3 nights at hotel
<b>Total marks for question</b>		<b>5</b>		

Question	Process	Mark	Mark Grid	Evidence
<b>Q8</b>	Selects three tours	1 or	F	Selects 3 tours <b>or</b> gives correct start and finish times for one tour
	Presents schedule appropriately	2 or	FG	Presents information showing all 3 tours with correct start times <b>or</b> gives correct start and finish time for 2 tours
	Start and finish times correct	3	FGH	Presents information showing all 3 tours with correct start and correct finish times
	Selects tours	1 or	J	Selects Vatican and at least one of Ancient Rome <b>or</b> Colosseum <b>or</b> Catacombs
	Gives schedule	2	JK	Selects Vatican and two of Ancient Rome <b>or</b> Colosseum <b>or</b> Catacombs in three different am/pm slots <b>and</b> all tours finish by 6pm <b>and</b> days correct
<b>Total marks for question</b>		<b>5</b>		

Question	Process	Mark	Mark Grid	Evidence
<b>Q9</b>	Uses formula	1 or	L	$(1 \times 14 + 10) \div 2.2$ <b>or</b> $10 \times 2.2 (=22)$ 10.9 <b>or</b> 10.9090... <b>or</b> 11 <b>or</b> 24 and 22 Decision ft from supporting working. Mark L must be scored.
	Correct weight	2	LM	
	Makes decision	1	N	
<b>Total marks for question</b>		<b>3</b>		

Question	Process	Mark	Mark Grid	Evidence
<b>Q10</b>	Finds duration of programme	1 or	P	Two of 1 hour oe <b>or</b> 50 min <b>or</b> 2 hours 20 mins oe <b>or</b> evidence of use of estimation Total of 5 hours oe seen <b>or</b> 30 minutes recording time left <b>or</b> total of estimates (=5 hours 20 mins) <b>or</b> 300 minutes Decision ft from supporting working. Mark P must be scored.
	Calculates total	2	PQ	
	Makes decision	1	R	
<b>Total marks for question</b>		<b>3</b>		



Further copies of this publication are available from  
Edexcel Publications, Adamsway, Mansfield, Notts, NG18 4FN

Telephone 01623 467467  
Fax 01623 450481  
Email [publication.orders@edexcel.com](mailto:publication.orders@edexcel.com)  
Order Code FC029845 October 2011

For more information on Edexcel qualifications, please visit  
[www.edexcel.com/quals](http://www.edexcel.com/quals)

Pearson Education Limited. Registered company number 872828  
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE

Ofqual  




Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

