

Mark Scheme (Results)

May 2013

Functional Skills Mathematics
Level 1 (FSM01)

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications come from Pearson, the world's leading learning company. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information, please call our GCE line on 0844 576 0025, our GCSE team on 0844 576 0027, or visit our qualifications website at www.edexcel.com. For information about our BTEC qualifications, please call 0844 576 0026, or visit our website at www.btec.co.uk.

If you have any subject specific questions about this specification 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/>

Alternatively, you can speak directly to a subject specialist at Pearson about Edexcel qualifications on our dedicated Maths telephone line: 0844 463 2931.

Pearson: helping people progress, everywhere

Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for raising achievement through innovation in education. Find out more about how we can help you and your learners at: www.pearson.com/uk

May 2013

Publications Code FC036401

All the material in this publication is copyright

© Pearson Education Ltd 2013

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

Appropriate graph or chart –
(e.g. bar, stick, line graph,)

1
or

Evidence

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: The conference

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q1a	A4	Interprets question to find days	1	A	(Monday)15 th ,(Tuesday)16 th (Wednesday) 17 th , (Thursday)18 th May be indicated on calendar. Must include these dates and no others.
Q1b	R1	Works with 2 for 1 offer for Hotel Splendide	1	B	E.g. ('4' ÷ 2) × 129(=258) OR 129 ÷ 2(=64.5(0))
	R2	Works with cost for Hotel Royal	1 or	C	'4' × 91(=364) OR 91 – 35(=56) OR '4' × 35(=140)
	A4	Full process for Hotel Royal	2	CD	'4' × 91 – '4' × 35(=224) or '4' × '56' (=224)
	I6	Correct figures to compare consistent valid number of nights	1	E	E.g. 258 and 224 OR 64.5(0) (only valid for an even number of nights) and 56 OR 112 and 129
	I6	Decision ft their figures	1	F	E.g. Hotel Royal provided at least marks B and D awarded
Q1c	A4	Process to read information from graph	1or	G	Line on graph or correct indications on graph OR [240, 260]
	I6	Correct conversion	2	GH	[245,255]
Total marks for question			8		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q2a	R3	Process to add weights or subtract from limit	1or	J	$12.6 + 3 + 3.8 (=19.4)$ OR $20 - 12.6 - 3 - 3.8 (=0.6)$ o.e.
	I6	Correctly compares with luggage limit	2	JK	E.g. Yes and 19.4 (kg) OR Yes and 0.6 (kg)
Q2b	R2	Begins to process time	1	L	3:30 + 50 min OR 3:30 + 50 min + 1 hour OR 17:35 – 1 hour o.e.
	A4	Converts between 24 hour clock and 12 hr clock	1or	M	3:30 pm = 15:30 OR 9:05 am OR 3:25 pm OR 4:20 pm OR 5:35pm OR 8:30 pm OR 9:35 pm
	I6	Finds earliest flight	2	MN	17:35 or 5:35pm or AC498
Total marks for question			5		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q3	R2	Begins to identify information to solve problem	1or	P	Valid start time and room given for 1 workshop OR table with headings and at least 9 input opportunities
	I6	Develops solutions	2or	PQ	Start time and room given for 3 valid workshops
	A5	Complete correct solution	3	PQR	Full solution with all 9 workshops scheduled in 3 rooms with no overlaps. Start at 9am and finish by 1pm
Total marks for question			3		

Section B: Ponies

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q4(a)	R1	Starts to substitute into formula	1 or	A	14×4 OR 5×12
	A4	Completes substitution	2 or	AB	$14 \times 4 \div 12 (= 4.6)$ OR $5 \times 12 \div 4 = (15)$
	I6	Calculates and interprets solution	3	ABC	No AND [4.6,4.7] OR 5ft is 15 hands
Q4(b)	A4	Begins to work with ratio	1 or	D	2(kg) is 1 part $2 \times 3 (=6)$ is 3 parts
	I6	Calculates weight of hay	2	DE	6 kg correct units
Total marks for question			5		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q5 (a)	R3	Works with dimensions	1 or	F	Draws 1 rectangle with 1 correct side OR rectangle with sides 3 sq × 4 sq
	A4	Draws to scale	2 or	FG	Draws 1 correct rectangle (6×8 squares) OR 3 x rectangle 3sq × 4 sq
	R1	Draws 3 correct rectangles	3	FGH	Draws 3 correct rectangles
	I6	Draws clear pathway	1	J	4 square wide pathway to door and allow access
Q5 (b)	R3	Process to find figures to compare	1 or	K	3×5000(=15 000) OR 14970 ÷3(=4990) OR 14970 ÷5000(=2.994)
	I6	Decision with correct figures	2	KL	No AND 15000 OR 4990 OR [2.9, 2.994] OR 30
	A5	Valid check	1	M	Any valid check
Total marks for question			7		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q6	R2	Process to work out number per year	1	N	$52 \div 6 (= [8,9])$
	R3	Begins to calculate cost	1 or	P	55×3 OR $55 \times '8'$ OR $'8' \times 3$ OR 55×52 OR 3×52
	A4	Full process to find cost	2 or	PQ	$55 \times 3 \times$ number of times shoed per year (8 or 9)
	I6	Correct solution	3	PQR	(£)1320 OR (£)1485 OR (£)[1419, 1435.5(0)]
Total marks for question			4		

Section C: The cafe

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q7(a)	A4	Correct range	1	A	58. Do not accept mean here
Q7(b)	R2	Begins to work with mean or median	1or	B	66+120+76+62+84(=408) OR 62,66,76,84,120 OR
	A4	Complete process for mean or median	2or	BC	'408'÷5 (= 81.6) OR 76 OR 80 × 5(=400)
	I6	Decision with correct figures	3	BCD	No AND 81.6 o.e. OR No AND 408 and 400 OR No AND 76 dep on B mark
Q7(c)	R1	Appropriate graph – bar chart, line graph, pictogram	1or	E	One of: linear scale, plotting (± 1 square), labels (calories and egg etc.) 66, 120, 76, 62, 84
	A4		2or	EF	Two of: linear scale, plotting (± 1 square), labels
	I6		3	EFG	Three of: linear scale, plotting (± 1 square), labels
Total marks for question			7		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q8	R2	Starts to design data collection sheet	1or	H	At least two of: table numbers, heading or list of some breakfast items, input opportunities
	I6	Develops data collection sheet	2or	HJ	All of: table numbers, heading or list of some breakfast items, input opportunities. Must be able to see an individual order
	A5	Checks and presents efficient solution	3	HJK	All of: table numbers, heading or list of all breakfast items, input opportunities for 4 customers
Total marks for question			3		

Question	Skills Standard	Process	Mark	Mark Grid	Evidence
Q9(a)	R1	Starts to find total cost or budget for 1 person.	1or	L	Adds cost of at least 2 items OR $7.5 - 1$ items OR gives 4 items within budget but no total OR $7.5 \div 2 (=3.75)$
	I6	Finds total cost for their items	2or	LM	Finds correct total cost of 2 named food and 2 named drink items OR subtracts 2 food and 2 drink from 7.50 OR works with £3.75
	A5	Checks their cost is within budget	3	LMN	Checks total is less than £7.50 or £3.75 and specifies items
Q9(b)	R2	Process to work with fraction	1or	P	$3.50 \div 2 (=1.75)$ o.e.
	A4	Complete process	2 or	PQ	'1.75'+3.5(=5.25) OR $3.50 \times 1.5(=5.25)$
	I6	Decision with correct figures	3	PQR	No and (£)5.25
Total marks for question			6		

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
Order Code FC036401 May 2013

For more information on Edexcel qualifications, please visit
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

