PEARSON EDEXCEL FUNCTIONAL SKILLS MATHEMATICS
MARK SCHEME – LEVEL 1 SET 1

Marking Guidance for Functional Skills Mathematics Level 1

General

- All learners must receive the same treatment. Examiners must mark the first learner in exactly the same way as they mark the last.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded; exemplification will not be exhaustive. When examiners are in doubt regarding the application of the mark scheme, the response should be escalated to a senior examiner to review.
- Mark schemes should be applied positively. Learners 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. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the learner's response is not worthy of credit according to the mark scheme. If there is a wrong answer (or no answer) indicated in the answer box, always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.
- Working is always expected. For short questions, where working may not be seen, correct answers may still be awarded full marks. For longer questions, an answer in brackets from the mark scheme seen in the body of the working, implies a correct process and the appropriate marks may be awarded.
- **Questions that specifically state that working is required**: learners who do not show working will get no marks – full details will be given in the mark scheme for each individual question.

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 learner uses to reach an answer. The evidence column shows the *most likely* examples that will be seen. If the learner gives different evidence valid for the process, examiners should award the mark(s).
- If working **is crossed out and still legible**, then it should be marked, as long as it has not been replaced by alternative work.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 mark the work leading to the answer given in the answer box or working box. If there is no definitive answer then marks should be awarded for the lowest scoring method shown.
- A suspected **misread**, e.g. 528 instead of 523, may still gain process marks provided the question has not been simplified. Examiners should send any instance of a suspected misread to a senior examiner to review.
- It may be appropriate to **ignore subsequent work (isw)** when the learner's additional work does not change the meaning of their answer.

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- **Correct** working followed by an **incorrect decision** may be seen, showing that the learner can calculate but does not understand the functional demand of the question. The mark scheme will make clear how to mark these questions.
- **Transcription** errors occur when the learner presents a correct answer in working, and writes it incorrectly on the answer box e.g. 698 in the body and 689 in the answer box; mark the better answer if clearly only a transcription error. Examiners should send any instance of transcriptions errors to a senior examiner to review.
- **Incorrect method** if it is clear from the working that the correct answer has been obtained from incorrect working, award 0 marks. Examiners must escalate the response to a senior examiner to review.
- **Follow through marks (ft)** must only be awarded when explicitly allowed in the mark scheme. Where the process uses the learner'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 coming from a correct or set of correct processes.
  - When words are used in { } then this value does not need to come from a correct process but should be the value the learner believes to be required. The constraints on this value will be detailed in the mark scheme. For example, {volume} means the figure may not come from a correct process but is clearly the value learners believe should be used as the volume.
- Marks can usually be awarded where units are not shown. Where units are required this will be stated. For example, 5(m) indicates that the units do not have to be stated for the mark to be awarded.
- Learners may present their answers or working in many **equivalent** ways. This is denoted oe 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, when a range of answers is given e.g. [12.5, 13] this is the inclusive closed interval.
- **Accuracy** of figures. Accept an answer which has been rounded or truncated from the correct figure unless other guidance is given. For example, for 12.66.. accept 12.6, 12.7, 12.66, 12.67 or any other more accurate figure.
- **Probability** answers must be given as a fraction, percentage or decimal. If a learner gives a decimal equivalent to a probability, this should be written to at least 2 decimal places (unless tenths). If a learner gives the answer as a percentage a % must be used. Incorrect notation should lose the accuracy marks, but be awarded any implied process marks. If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.
- **Graphs.** A linear scale must be linear in the range where data is plotted, and use consistent intervals. The scale may not start at 0 and not all intervals must be labelled. The minimum requirements will be given, but examiners should give credit if a title is given which makes the label obvious.

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Section A (Non-Calculator)

Question	Process	Mark	Mark Grid	Evidence
Q1	Begins to work with fraction	1 or	A	275 ÷ 5 (=55) **OR** 275 × 2 (=550) **OR** 2 ÷ 5 (=0.4)
	Full process to find fraction of amount	2 or	AB	275 ÷ 5 × 2 (=110) oe
	Accurate figure	3	ABC	110
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q2	Begins to work with proportion	1 or	A	e.g. 36 ÷ 4 (=9) **OR** 10 ÷ 4 (=2.5) **OR** 95 ÷ 10 (=9.5) **OR** 36 ÷ 2 (=18)
	Full process to find figures to compare	2 or	AB	e.g. '9' × 10 (=90) **OR** '2.5' × 36 (=90) **OR** '18' × 10 ÷ 2 (=90) **OR** 36 ÷ 4 (=9) **and** 95 ÷ 10 (=9.5)
	Valid decision with accurate figures	3	ABC	e.g. No **AND** 90(g) **OR** No **AND** 9(g) **and** 9.5(g available per serving)
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q3(a)	Begins process to calculate mean	1 or	A	114 + 122 + 113 + 110 + 121 (= 580)
	Full process to calculate mean	2 or	AB	(114 + 122 + 113 + 110 + 121) ÷ 5 (= 116)
	Accurate figure	3	ABC	116 (g)
Q3(b)	Valid check using a reverse calculation	1	D	e.g. (116 × 5) – 121 – 110 – 113 – 122 = 114 **OR** 116 × 5 = 580
	Total marks for question	**4**		

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Question	Process	Mark	Mark Grid	Evidence
Q4(a)	Begins to work with probability	1 or	A	e.g. 2 of 6 ÷ 6 (=1) 6 ÷ 3 (=2) 6 ÷ 2 (=3) NB May be implied by 6 sections in a ratio 1 : 2 : 3 **OR** 2 of 3 segments red 2 segments blue 1 segment green
	Accurate spinner drawn	2	AB	3 segments red **AND** 2 segments blue **AND** 1 segment green
Q4(b)	Accurate figure	1	C	60 May be measured or calculated.
Q4(c)	Correct angle identified	1	D	Acute selected
	Total marks for question	**4**		

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Section B (Calculator)

Question	Process	Mark	Mark Grid	Evidence
Q5(a)	Correct answer	1	A	529
Q5(b)	Correct answer	1	B	40
Q5(c)	Correct answer	1	C	$\frac{3}{20}$
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q6	Uses consistent units	1	A	e.g. 7500(g) **or** 0.1(kg) **OR** 1000 ÷ 100 (=10)
	Begins process to work with proportions	1 or	B	e.g. '7500' ÷ 100 (=75) oe **OR** 140 ÷ 1.85 (=75.67..) **OR** '10' × 1.85 (=18.5)
	Process to find figures to compare	2 or	BC	e.g. '75' × 1.85 (=138.75) **OR** 140 ÷ '75' (=1.86..) **OR** '18.5' × 7.5 (=138.75) **OR** '7500' ÷ 100 (=75) oe **and** 140 ÷ 1.85 (=75.67..)
	Valid decision with accurate figure	3	BCD	No **AND** (£)138(.75) **OR** No **AND** (£)1.86(6..) **OR** No **AND** 75(bags) **and** 75.6(7..)(bags) If this mark awarded, award mark A
	Total marks for question	**4**		

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Question	Process	Mark	Mark Grid	Evidence
Q7	Process to calculate area	1	A	12 × 7 (=84) **OR** '6' × 7 (=42) **or** 12 × '3.5' (=42)
	Process to work with a half	1	B	e.g. {area} ÷ 2 (=42) **OR** 12 ÷ 2 (=6) **or** 7 ÷ 2 (=3.5) **OR** '1170' ÷ 2 (=585) **OR** '70' ÷ 2 (=35)
	Process to work with packs	1	C	'42' ÷ 1.4 (=30) **OR** {area} ÷ 1.4 (=60)
	Process to work with costs	1	D	'30' × 19.5 (=585) **OR** '60' × 19.5 (=1170)
	Accurate figure	1	E	585 NB some steps may be implied by correct figure
	Total marks for question	**5**		

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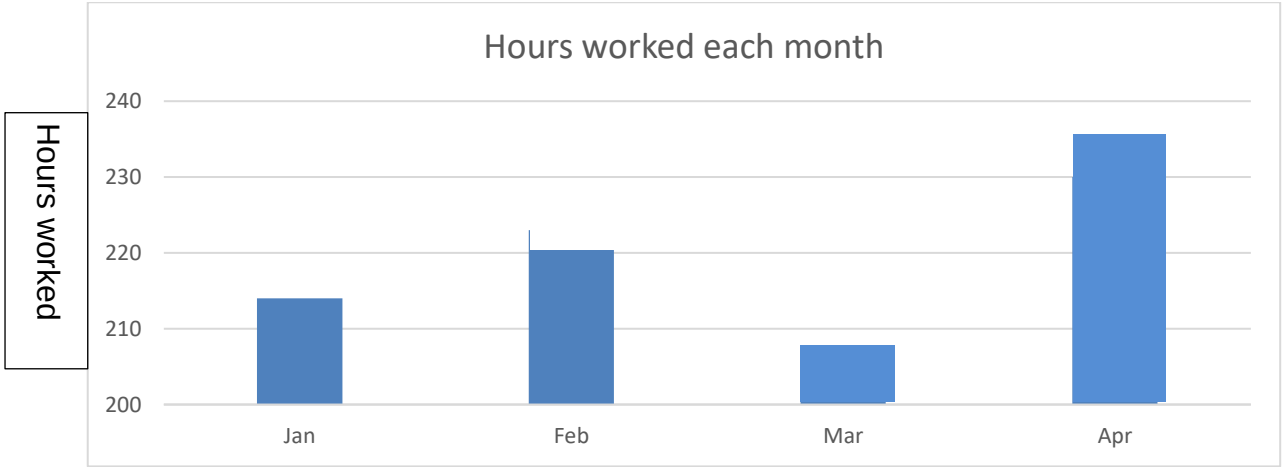
Question	Process	Mark	Mark Grid	Evidence
Q8	Starts to draw a bar chart	1 or	A	one of: complete linear scale, labels, accurate plotting
	Develops their bar chart	2 or	AB	two of: complete linear scale, labels, accurate plotting
	Fully correct bar chart	3	ABC	All of: complete linear scale, labels, accurate plotting Minimum labels required, Horizontal "Month, J, F, M, A", Vertical "(Number of) hours" Labels may be seen in title.
	Total marks for question	**3**		

Example of solution for Q8



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Question	Process	Mark	Mark Grid	Evidence
Q9	Begins to work with percentage or change in visitor numbers	1 or	A	344 880 × 0.1 (=34 488) oe **OR** 371 708 – 344 880 (=26828)
	Full process to find figures to compare	2 or	AB	344 880 × 1.1 (=379 368) oe **OR** 344 880 × 0.1 (=34 488) oe **and** 371 708 – 344 880 (=26 828) **OR** '26 828' ÷ 344 880 × 100 (=7.77…)
	Valid decision with accurate figures	3	ABC	No **AND** 379 368 **OR** No **AND** 34 488 **and** 26 828 **OR** No **AND** 7(.7.. %)
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q10	Process to work with 4 breakfasts	1	A	4 × 6.50 (=26) **OR** 4 × '0.975' (=3.9) May be seen or implied in subsequent calculations
	Process to work with 2 nights	1	B	e.g. 2 × '121' (=242) **OR** 2 × '26' (=52) **OR** 2 × 95 (=190)
	Process to find total cost with or without discount per night or for 2 nights	1	C	e.g. 95 + '26' (=121) **OR** '52' + '190' (=242) May be seen or implied in subsequent calculations
	Process to find discount of any cost using membership or cost after discount applied	1	D	e.g. '242' × 0.15 (=36.3) oe **OR** 6.50 × 0.15 (=0.975) oe **OR** 95 × 0.15 (=14.25) oe **OR** '242' × 0.85 (=205.7) oe
	Full process to find total saving	1 or	E	'36.3' – 19.95 (=16.35) oe **OR** '242' – '205.7' – 19.95 (=16.35) oe
	Accurate figure	2	EF	16.35
	Total marks for question	**6**		

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Question	Process	Mark	Mark Grid	Evidence
Q11	Begins process to work with formula	1 or	A	54 ÷ 12 (=4.5) **OR** 1500 ÷ 300 (=5)
	Full process to find figures to compare	2 or	AB	54 ÷ 12 × 300 (=1350) **OR** 1500 ÷ 300 × 12 (=60)
	Valid decision with accurate figures	3	ABC	No **AND** 1350 (mm) **OR** No **AND** 60 (inches)
	Total marks for question	**3**		

Question	Process	Mark	Mark Grid	Evidence
Q12	Full process to calculate volume	1 or	A	$3 \times 4.5 \times 5$ (= 67.5) oe
	Accurate figure	2	AB	67.5
	Selects correct units	1	C	cm^3 NB Candidates may work in alternative consistent units and select appropriate units
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q13(a)	Process to show groups	1	A	Three valid groups e.g. 3 to 4, 5 to 6, 7 to 8
	Process to place the data into table	1	B	Populate a table with the data (allow 1 error or omission) NB may be inefficient
	Process to draw a fully correct and suitable table	1	C	Fully correct functional frequency table with three populated groups and sufficient headings to communicate data
Q13(b)	Accurate figure	1	D	6
	Total marks for question	**4**		

Example of solution for Q13(a)

Size	**Frequency**
3 to 4	**3**
5 to 6	**8**
7 to 8	**7**

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Question	Process	Mark	Mark Grid	Evidence
Q14(a)	Process to calculate range	1 or	A	6772 – 1422 (=5350) **OR** 1422 to 6772
	Accurate figure	2	AB	5350
Q14(b)	Valid check	1	C	e.g. 7000 – 1000 = 6000 **or** 6700 – 1400 = 5300 **OR** 5350 + 1422 = 6772
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q15	Completes the key	1	A	50 (cm) indicated
	Starts to position sofa	1 or	B	Rectangle with 2 of: Width 2 sq lengths Length 4 sq lengths Longest side against a wall **OR** Rectangle with sides in the correct ratio **and** longest side against a wall
	Fully correct solution for sofa	2	BC	Rectangle with width 2 sq, length 4 sq, and longest side against a wall and not blocking door
	Starts to position table	1 or	D	Square of side 3 sq lengths **OR** Resized square at least 4 sq away from the door **OR** Rectangle of side 3 sq lengths at least 4 sq away from the door
	Fully correct solution for table	2	DE	Square of side 3 sq lengths, at least 4 sq away from the door, not overlapping sofa
	Total marks for question	**5**		

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Example of solution for Q15