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- If working **is crossed out and still legible**, then it should be marked, as long as it has not been replaced by alternative work.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)

PMAT1/N08				
Question	**Process**	**Mark**	**Mark Grid**	**Evidence**
Q1(a)	Accurate figure	1	A	13
Q1(b)	Accurate figure	1	B	19
Q1(c)	Valid check using reverse calculation	1	C	e.g. 19 – 15 = 4
	Total marks for question	**3**		

Question	**Process**	**Mark**	**Mark Grid**	**Evidence**
Q2	Process to begin to find perimeter	1 or	A	e.g. 110 + 175 (=285) **OR** 110 + 175 + 110 + 175 (=570) oe **OR** 110 × 3 (=330)
	Full process to find required length	2 or	AB	'570' × 3 (=1710) oe
	Accurate figure	3	ABC	1710
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q3	Finds mileage for the five years	1	A	72 889 − 27 563 (45326)
	Begins process to find mean	1 or	B	e.g. {mileage} ÷ 5
	Process to divide	2 or	BC	e.g. $\dfrac{90(65.\ 2)}{5\,|\,\text{'}45326.^{1}0\text{'}}$ NB allow '45326' to be {mileage}
	Accurate figure	3	BCD	9065.2
	Total marks for question	**4**		

Question	Process	Mark	Mark Grid	Evidence
Q4	Uses rounded figure	1	A	e.g. 150
	Process to find 20% of their figure	1 or	B	e.g. '150' ÷ 10 × 2 (=30)
	Process to find total cost	2 or	BC	e.g. '150' + '30' (=180) Unrounded **calculations** can score B and BC marks
	Estimated figure from supportive working	3	BCD	e.g. 180 NB This question requires working shown
Total marks for question		**4**		

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Section B (Calculator)

PMAT1/C08				
Question	**Process**	**Mark**	**Mark Grid**	**Evidence**
Q1	Begins process to work with formula	1 or	A	4×20 (=80) **OR** $100 - 15$ (=85)
	Full process to work with formula	2 or	AB	'80' + 15 (=95) **OR** '85' ÷ 20 (=4.25)
	Valid decision with accurate figure	3	ABC	Yes **AND** 95 **OR** Yes **AND** 4.25
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q2(a)	Accurate figure	1	A	$\dfrac{1}{2}$ oe
Q2(b)	Correctly ordered figures	1	B	0.130, 0.31, 0.371, 0.38, 0.4
Q2(c)	Begins process to find figures to compare	1 or	C	e.g. $\dfrac{4}{10}$ **OR** 0.3 **or** 0.4 **OR** $7 \times 10 + 3$ (=73) **or** $7 \times 5 + 2$ (=37)
	Indicates the correct fraction with supportive working	2	CD	$7\dfrac{2}{5}$ oe
	Total marks for question	4		

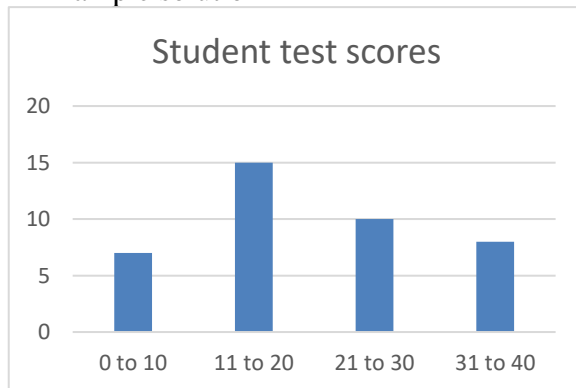| Question	Process	Mark	Mark Grid	Evidence
Q3	Works in consistent units	1	A	e.g. 12 000 (g) **or** 0.15 (kg) May be seen or implied by subsequent working
	Begins to find food required per day or days per hen available	1 or	B	e.g. '0.15' × 5 (=0.75) **OR** '12000' ÷ 150 (=80) **OR** 10.5 ÷ 12 (=0.875) **OR** 12 ÷ 10.5 (=1.14..)
	Develops solution	2 or	BC	e.g. '12000' ÷ '750' (=16) **OR** '80' ÷ 5 (=16) **OR** 10.5 ÷ '80' (=0.13..) **OR** '0.15' × 5 (=0.75) **and** 10.5 ÷ 12 (=0.875)
	Full process to find the cost per day	3 or	BCD	e.g. 10.5 ÷ '16' (=0.65..) **OR** '0.13..' × 5 (=0.65..) **OR** '0.75' × '0.875' (=0.65..)
	Accurate figure in pence	4	BCDE	66 Ft functional rounding in earlier calculations NB could work in g or kg throughout – all weight calculations are oe
	Total marks for question	**5**		

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Question	Process	Mark	Mark Grid	Evidence
Q4(a)	Begins to work with range	1 or	A	e.g. 88 – 69 (=19) **OR** 69 to 88 **OR** 69 + 20 (=89) **OR** 88 – 20 (=68)
	Valid decision with accurate figure	2	AB	Yes **AND** 19 **OR** Yes **AND** 89 **OR** Yes **AND** 68
Q4(b)	Valid check of range calculation	1	C	e.g. 69 + 19 = 88
Total marks for question		3		

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Question	Process	Mark	Mark Grid	Evidence
Q5	Begins process to draw bar chart	1 or	A	One of: linear scale labels accurate plotting
	Develops solution	2 or	AB	Two of: linear scale labels accurate plotting
	Fully correct bar chart	3	ABC	All of: linear scale labels accurate plotting Minimum labels required: Score, 0-10, 11-20, 21-30, 31-40, Frequency / (Number of) students / people
	Total marks for question	**3**		

Example solution

Student test scores

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Question	Process	Mark	Mark Grid	Evidence
Q6	Works with symmetry	1	A	e.g. Draws line of symmetry on diagram **OR** 2×1.75 (=3.5) **OR** Indicates 1.75 correctly on the diagram May be seen or implied in subsequent working
	Begins to work with area or finds missing calculated length	1 or	B	e.g. 5×9 (=45) **OR** 1.75×3 (=5.25) **OR** $(3 + 5) \times 9$ (=72) **OR** $9 - (2 \times 1.75)$ (=5.5)
	Develops solution	2 or	BC	e.g. 5×9 (=45) **and** $9 - (2 \times 1.75)$ (=5.5) **OR** '5.5' $\times 3$ (=16.5) **OR** $9 \times 3 - (2 \times$ '5.25') (=16.5)
	Full process to find total area	3	BCD	e.g $5 \times 9 +$ '16.5' (=61.5) **OR** '72' $- (2 \times$ '5.25') (=61.5)
	Process to find number of packs required	1 or	E	e.g. {area} $\div 10$ (=6.15)
	Accurate figure with supportive working	2	EF	7 NB this question requires working shown
	Total marks for question	**6**		

Question	Process	Mark	Mark Grid	Evidence
Q7	Begins to work with data	1 or	A	e.g. 90 – 34 – 12 (=44) **OR** 360 ÷ 90 (=4) **OR** 34 ÷ 90 × 360 (=136) **OR** 12 ÷ 90 × 360 (=48)
	Full process to find size of angle	2 or	AB	e.g. '44' ÷ 90 × 360 (=176) **OR** '4' × (90 – 34 – 12) (=176) **OR** 360 – '136' – '48' (=176)
	Accurate figure	3	ABC	176
Total marks for question		3		

Question	Process	Mark	Mark Grid	Evidence
Q8	Begins to work with fraction	1 or	A	e.g. 56 ÷ 8 (=7) **OR** 3 ÷ 8 (=0.375) oe **or** 23 ÷ 56 (=0.41..) oe
	Full process to find figures to compare	2 or	AB	e.g. '7' × 3 (=21) oe
	Valid decision with accurate figure	3	ABC	e.g. No **AND** 21 NB Can accept 23/56 as fraction with comment such as 'Does not simplify' or 'is not equivalent' for ABC
Total marks for question		**3**		

Question	Process	Mark	Mark Grid	Evidence
Q9	Process to interpret net	1 or	A	States side length is 3 May be seen in calculation or diagram
	Process to find volume of cube	2 or	AB	3 × 3 × 3 (=27) oe
	Accurate figure	3	ABC	27
	Correct units	1	D	cm^3 NB allow other figure and units if consistent and supported by working
Total marks for question		**4**		

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Question	Process	Mark	Mark Grid	Evidence
Q10	Begins to work with scale	1 or	A	Rectangle with length 3 squares **or** 1.5 squares **OR** Rectangle with two of: longest side against a wall at least 4 squares from the doors at least 4 squares from the bed
	Develops solution	2 or	AB	Rectangle with length 3 squares **and** 1.5 squares **AND** one of: longest side against a wall at least 4 squares from the doors at least 4 squares from the bed
	Fully correct rectangle drawn with constraints	3	ABC	Rectangle with length 3 squares **and** 1.5 squares **AND** all of: longest side against a wall at least 4 squares from the doors at least 4 squares from the bed
Total marks for question		3		

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Question	Process	Mark	Mark Grid	Evidence
Q11(a)	Accurate figure and symbol	1	A	70%
Q11(b)	Writes numbers in figures	1	B	680 000
	Begins process to find percentage of their figure	1 or	C	{figure} ÷ 100 × 25 (=170 000) oe **OR** (100 – 25) ÷ 100 (=0.75) **OR** {figure} ÷ 4 (=170 000)
	Full process to find percentage reduction	2 or	CD	{figure} – '170 000' (=510 000) **OR** {figure} × '0.75' (=510 000) **OR** {figure} ÷ 4 × 3 (=510 000)
	Accurate figure	3	CDE	510 000 NB {figure} must contain digits 6 and 8 with zeros only
Total marks for question		5		

Q10 Example solutions