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

Guidance for Marking Functional Skills Mathematics Level 1
PASS MARK FOR THIS TEST: 32

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 question 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- If working **is crossed out and still legible**, then it should be marked, as long as it has not been replaced by alternative work.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/N01				
Question	**Process**	**Mark**	**Mark Grid**	**Evidence**
Q1(a)	Accurate figure	1	A	300
Q1(b)	Accurate figure	1	B	3.4 oe
Q1(c)	Accurate figure	1	C	32
	Total marks for question	**3**		

Question	**Process**	**Mark**	**Mark Grid**	**Evidence**
Q2	Rounds a number to a manageable figure	1	A	e.g. Use of 1000 **or** 3 May be seen in the calculations
	Method to calculate total figure using their rounded figure(s)	1 or	B	e.g. '1000' × '3' (=3000) **OR** 2500 ÷ '3' (=833.33..) Allow 1025 × 2.89 (=2962.25) **or** 2500 ÷ 2.89 (=865.05..) **or** 2500 ÷ 1025 (=2.43..) for this mark only
	Correct decision and accurate figures	2	BC	e.g. Yes **AND** 3000 (kg) **OR** Yes **AND** 833(.33) **OR** Yes **AND** 2500 ÷ '3' **and** is just over 800
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q3(a)	Full process to find perimeter	1 or	A	$(200 \times 2) + (300 \times 2)$ (= 1000) oe
	Accurate figure	2	AB	1000
Q3(b)	Full process to find number of fence panels	1 or	C	$200 \div 2.5$ (= 80) oe **OR** uses a full build up method (allow 1 arithmetic error)
	Accurate figure	2	CD	80
	Total marks for question	**4**		

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Question	Process	Mark	Mark Grid	Evidence
Q4	Process to work with averages	1	A	1200 × 5 (=6000) **OR** 8000 ÷ 5 (=1600)
	Process to work with costs	1 or	B	e.g. 26775 + 8000 (=34775) **or** 29515 + '6000' (=35515) **OR** 8000 – '6000' (=2000) **or** 29515 – 26775 (=2740)
	Full process to find figures to compare	2 or	BC	e.g. 26775 + 8000 (=34775) **and** 29515 + '6000' (=35515) **OR** 8000 – '6000' (=2000) **and** 29515 – 26775 (=2740)
	Valid decision with accurate figures	3	BCD	e.g. Petrol **AND** (£)35515 **and** (£)34775 **OR** Petrol **AND** (£)740 **OR** Petrol **AND** (£)2000 **and** (£)2740
	Total marks for question	**4**		

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Section B (Calculator)

PMAT1/C01				
Question	**Process**	**Mark**	**Mark Grid**	**Evidence**
Q1(a)	Starts to work with ratio	1 or	A	48 : 12 oe
	Accurate answer	2	AB	4 : 1
Q1(b)	Identifies likelihood	1	C	'Even chance' identified only
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q2	Process to begins to work with percentage	1 or	A	73 × 0.2 (= 14.60) oe **OR** '1022' × 0.2 (= 204.40) oe **OR** 1 + 20 ÷ 100 (=1.2) oe
	Full process to work with percentage	2	AB	73 + '14.60' (=87.60) oe **OR** '1022' + '204.40' (=1226.40) oe **OR** 1200 – '204.40' (=995.60)
	Process to work with proportion	1 or	C	'87.60' × 14 (= 1226.40) **OR** 73 × 14 (= 1022) **OR** 1200 ÷ 14 (=85.71)
	Valid decision with accurate figures	2	CD	No **AND** (£)1226(.40) **OR** No **AND** (£)26(.40) (short) **OR** No **AND** (£)87(.60) **and** (£)85(.71) **OR** No **AND** (£)1022 **and** (£)995(.60) No **AND** only has (£)71.43 per chair (May be seen but not on spec)
	Total marks for question	**4**		

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Question	Process	Mark	Mark Grid	Evidence
Q3	Begins to work with area	1 or	A	14 × 9 (= 126) **OR** 2.4 × 3.8 (= 9.12)
	Process to find both areas or the seed for one area	2 or	AB	14 × 9 (= 126) **and** 2.4 × 3.8 (= 9.12) **OR** '126' ÷ 15 (= 8.4) **or** '9.12' ÷ 15 (= 0.608)
	Process to find area to seed or seed for two areas	3 or	ABC	e.g. '126' – '9.12' (=116.88) **OR** '126' ÷ 15 (=8.4) **and** '9.12' ÷ 15 (=0.608)
	Full process to find amount of seed required	4 or	ABCD	e.g. '116.88' ÷ 15 (=7.792) **OR** '8.4' – '0.608' (=7.792)
	Accurate figure supported by working	5	ABCDE	8 (boxes)
	Total marks for question	**5**		

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Question	Process	Mark	Mark Grid	Evidence
Q4	Process to begin to work with formula	1 or	A	21 × 1.8 (=37.8) **OR** 70 – 32 (=38)
	Full process to work with formula	2 or	AB	e.g. 21 × 1.8 + 32 (=69.8) oe **OR** (70 – 32) ÷ 1.8 (=21.1..) oe
	Valid decision with accurate figures	3	ABC	e.g. No **AND** 69.8(°F) **OR** No **AND** 21.1(°C)
	Total marks for question	**3**		

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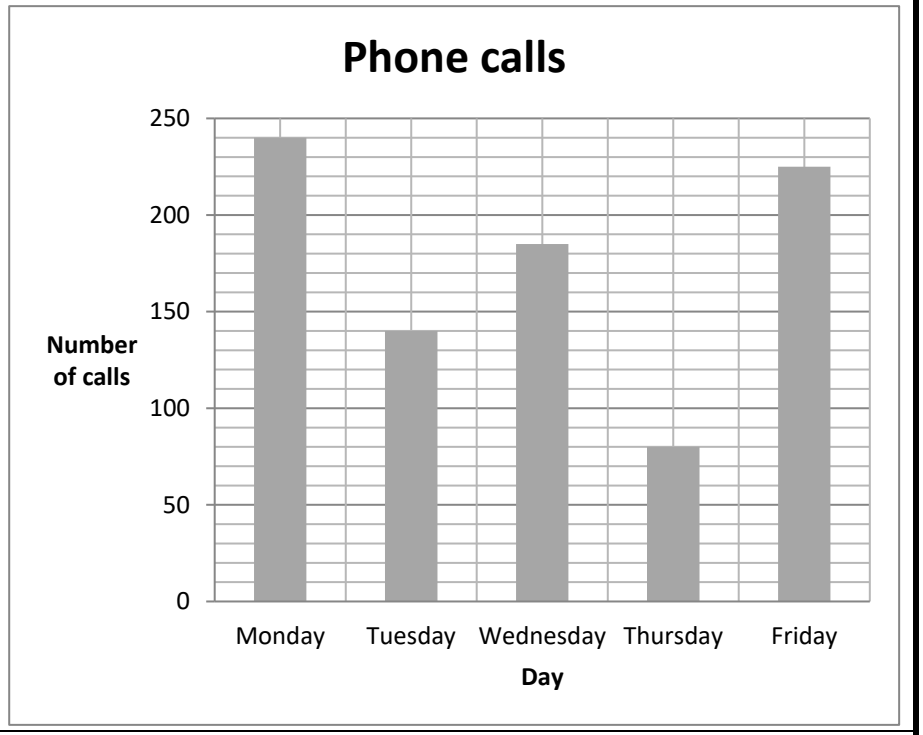
Question	Process	Mark	Mark Grid	Evidence
Q5	Starts to draw a bar chart	1 or	A	one of: linear scale, labels, accurate plotting
	Develops their bar chart	2 or	AB	two of: linear scale, labels, accurate plotting
	Fully correct bar chart	3	ABC	all of: linear scale, labels, accurate plotting Minimum labels required, Horizontal "(Day), M,T,W,Th,F" Vertical "(Number of) calls" 
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q6(a)	Used of consistent units	1	A	e.g. 0.25(kg) **or** 50000(g) May be seen in subsequent working
	Full process to find number of bags required for week 5	1	B	e.g. 2400 × '0.25' ÷ 50 (=12) **OR** 2400 × 250 ÷ '50000' (=12)
	Begins to work with mean	1 or	C	7 + 14 + 8 + 13 + {value for week 5} (=54)
	Full process to work with mean	2 or	CD	'54' ÷ 5 (=10.8) Ft {value for week 5} for this mark
	Accurate figure supported	3	CDE	11 (bags) **or** 10.8 (bags)
Q6(b)	Valid check	1	F	e.g. 10.8 × 5 = 54 **OR** 11 × 5 = 55, close to 54
	Total marks for question	**6**		

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Question	Process	Mark	Mark Grid	Evidence
Q7	Begin to work with scale	1 or	A	Rectangle with side length 6 squares **or** 3 squares **OR** Rectangle with one of: at least 4 squares away from the house at least 1 square away from the fence, shed and flowerbed **OR** One constraint shown e.g. by shading
	Develops solution	2 or	AB	Rectangle with side length 6 squares **and** 3 squares **and** one of: at least 4 squares away from the house at least 1 square away from the fence, shed and flowerbed
	Fully correct rectangle drawn with restraints	3	ABC	Rectangle with side length 6 squares **and** 3 squares **and** all of: at least 4 squares away from the house at least 1 square away from the fence, shed and flowerbed
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q8	Process to show groups	1	A	Four valid groups 1 to 5, 6 to 10, 11 to 15, 16 to 20
	Process to draw suitable table	1	B	Table drawn with headings for at least groups **and** frequency **AND** input opportunities
	Process to place the data into table	1	C	Populate a table with the data (allow 1 error or omission)
	Total marks for question	**3**		

Time (hours)	Frequency
1 to 5	4
6 to 10	8
11 to 15	6
16 to 20	2

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Question	Process	Mark	Mark Grid	Evidence
Q9	Uses consistent units	1	A	e.g. 180 × 1000 (= 180000) May be seen in subsequent working
	Starts to work with volume	1 or	B	55 × 40 (= 2200) **OR** {capacity} ÷ 55 (=3272.72..) **or** {capacity} ÷ 40 (=4500) NB capacity must include the digits 1 and 8
	Full process to find the length	2	BC	{capacity} ÷ '2200' (= 81.81..) oe
	Accurate figure	1	D	82 If C is not awarded D may be given for their decimal figure correctly rounded to the nearest whole number
	Total marks for question	**4**		

Question	Process	Mark	Mark Grid	Evidence
Q10(a)	Begins to match shape with correct net	1 or	A	One correct and no more than 1 incorrectly matched
	Fully correct solution	2	AB	Three correctly matched
Q10(b)	Correct answer	1	C	Select circle
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q11(a)	Writes figure in digits	1	A	250 000
	Complete process to work with percentage	1 or	B	{figure} ÷ 100 × 15 (= 37500) oe Figure must include digits 2, 5 and at least two zeros **or** any 6 digit figure ending with at least 4 zeros
	Process to find extra money required	2 or	BC	'37500' – 32000 (= 5500)
	Accurate figure	3	BCD	5500
Q11(b)	Valid check	1	E	Alternative methods or reverse calculation e.g. 10% = 25000 **and** 5% = 12500 **and** 25000 + 12500 = 37500 **OR** 37500 ÷ 15 × 100 = 250000
	Total marks for question	**5**		