PEARSON EDEXCEL FUNCTIONAL SKILLS
MATHEMATICS MARK SCHEME – LEVEL 1 PAST TEST 2

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- If working **is crossed out and still legible**, then it should be marked, as long as it has not been replaced by alternative work.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/N01				
Question	**Process**	**Mark**	**Mark Grid**	**Evidence**
Q1	Writes number in figures	1	A	84 000 May be seen or used in subsequent working
	Process to find $\frac{3}{4}$	1 or	B	$3 \div 4 \times$ {Figure} oe Allow figure to be a number that includes the digits 8 and 4
	Accurate figure supported by working	2	BC	63 000 **OR** Sixty three thousand
	Total marks for question	**3**		

Question	**Process**	**Mark**	**Mark Grid**	**Evidence**
Q2(a)	Accurate figure	1	A	23
Q2(b)	Accurate figure	1	B	36
Q2(c)	Accurate figure	1	C	– 39
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q3(a)	Begins to work with perimeter or cost	1 or	A	14 + 22 + 14 + 22 (=72) **OR** 14 × 5 (=70) **or** 22 × 5 (=110) **OR** (14 + 22) × 5 (=180) **OR** 360 ÷ 5 (=72)
	Full process to find figures to compare	2 or	AB	e.g. '72' × 5 (=360) **OR** '180' × 2 (=360) **OR** ('70' + '110') × 2 (=360) **OR** '360 ÷ 5' – 14 – 22 – 14 – 22 (=0) **OR** 14 + 22 + 14 + 22 (=72) **and** 360 ÷ 5 (=72)
	Valid decision with accurate figures and supportive working	3	ABC	e.g. Yes **AND** 360 **OR** Yes **AND** 0 **OR** Yes **AND** 72 **and** 72
Q3(b)	Valid check using reverse calculation	1	D	e.g. 360 ÷ 5 = 72 with 72 × 5 = 360 seen in (a)
	Total marks for question	**4**		

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Question	Process	Mark	Mark Grid	Evidence
Q4	Show the calculation required for volume	1	A	e.g. 2 × 4 × 0.9 May be seen as two calculations
	Accurately multiply by 0.9	1	B	0.9 × 2 = 1.8 **or** 0.9 × 4 = 3.6 **or** 0.9 × '8' = 7.2
	Process to convert to litres	1 or	C	{volume} × 1000 (=7200)
	Accurate figure	2	CD	7200
	Total marks for question	**4**		

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Section B (Calculator)

PMAT1/C02				
Question	**Process**	**Mark**	**Mark Grid**	**Evidence**
Q1	Begins process to work with mean	1 or	A	3.51 + 3 + 1.1 + 4 + 4.5 + 2.5 + 2.81 (=21.42)
	Full process to work with mean	2 or	AB	'21.42' ÷ 7 (=3.06)
	Accurate figure	3	ABC	3.06
	Total marks for question	**3**		

Question	**Process**	**Mark**	**Mark Grid**	**Evidence**
Q2(a)	Accurate answer	1	A	230
Q2(b)	Starts to process formula	1 or	B	9 ÷ '230' (=0.039…) **OR** 2 ÷ 100 (=0.02)
	Full process to work with formula	2 or	BC	9 ÷ '230' × 100 (=3.91…) **OR** 2 ÷ 100 × '230' (=4.6)
	Valid decision with accurate figures	3	BCD	No **AND** 3(.91…) (%) **OR** No **AND** 4(.6) (days) NB Ft their (a) where (a) ≤ 366 for all marks in part (b)
	Total marks for question	**4**		

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Question	Process	Mark	Mark Grid	Evidence
Q3	Begins to work with percentage	1 or	A	39.99 ÷ 100 × 15 (=5.9985) **OR** (100 – 15) ÷ 100 (=0.85)
	Process to calculate the cost of the router after discount	2 or	AB	39.99 – '5.9985' (=33.9915) **OR** 39.99 ÷ 100 × 85 (=33.9915)
	Process to work with 18 months	1 or	C	18 × 56.99 (=1025.82)
	Full to process to calculate total cost	2 or	CD	'1025.82' + '33.9915' (=1059.8115)
	Accurate figure	3	CDE	1059.81 **OR** 1059.82 Condone functional rounding for calculated figures throughout
	Total marks for question	**5**		

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Question	Process	Mark	Mark Grid	Evidence
Q4	Process to begin to work with ratio	1 or	A	5 + 1 (=6)
	Full process to work with ratio for 1 liquid	2 or	AB	9 ÷ '6' (=1.5) oe **OR** 9 ÷ '6' × 5 (=7.5) oe
	Accurate figures with / against correct labels	3	ABC	7.5 (water) **and** 1.5 (concentrate)
	Total marks for question	**3**		

Question	Process	Mark	Mark Grid	Evidence
Q5	Begins to solve the problem	1 or	A	Draws circle with radius 6cm ±2 mm **OR** 6 ÷ 2 = 3 **OR** State other radius is 3 **OR** Draw two concentric circles of incorrect radii
	Develops solution	2 or	AB	Draws circle with radius 6 cm ±2 mm **and** 6 ÷ 2 = 3 **OR** Draws circle with radius 6 cm ±2 mm **and** state other radius is 3 **OR** Draws circle with radius 3 cm ±2 mm
	Accurate diagram	3	ABC	Fully correct disc drawn
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q6	Process to find missing length	1	A	11 – 4 (=7) **OR** 9 – 5.5 (=3.5)
	Process to calculate 1 area	1 or	B	11 × '3.5' (=38.5) **OR** 9 × 4 (=36) **OR** 5.5 × 4 (=22) **OR** 11 × 9 (=99) **OR** 5.5 × '7' (=38.5) **OR** '3.5' × '7' (=24.5)
	Process to calculate total area	2	BC	'38.'5 + '22' (=60.5) **OR** '99' – '38.5' (=60.5) **OR** '36' + '24.5' (= 60.5)
	Process to calculate number of packs needed	1 or	D	{area} ÷ 3.24 (=18.672…)
	Process to calculate cost of ceiling tiles for whole number of packs	2 or	DE	'19' × 34.95 (=664.05)
	Accurate figure	3	DEF	664.05
	Total marks for question	**6**		

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Question	Process	Mark	Mark Grid	Evidence
Q7	Starts to draw chart	1 or	A	**1 of:** complete linear scale, labels, accurate plotting ±2 mm
	Develops chart	2 or	AB	**2 of:** complete linear scale, labels, accurate plotting ±2 mm
	Fully correct chart **amount of money (£)** 600 2 000 1 200 3 100 2 300	3	ABC	**All of:** complete linear scale, labels, accurate plotting ±2 mm Minimum labels: y(outh club), b(and), l(ibrary), p(lay group), c(are home) **AND** amount (£) **or** money **or** £
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q8	Begins to work with scale	1 or	A	20 ÷ 5 (=4) **OR** At least 1 square face drawn of correct size (4 squares)
	Develops solution	2 or	AB	5 faces of correct size drawn that do not fold into an open box **OR** Fully correct net of an open box of side length x where x ≠ 4 squares
	Fully correct net of cube	3	ABC	Fully correct net with 5 faces
	Total marks for question	**3**		

Question	Process	Mark	Mark Grid	Evidence
Q9(a)	Works with proportion	1	A	e.g. 1500 ÷ 8 (=187.5) **OR** 1500 ÷ 2 (=750) **OR** 12 ÷ 8 (=1.5)
	Full process to find the amount of meat needed	2 or	AB	'750' + 1500 (=2250) oe
	Accurate figure	3	ABC	2250
Q9(b)	Valid check	1	D	e.g. 2250 – 1500 = 750
	Total marks for question	**4**		

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Question	Process	Mark	Mark Grid	Evidence
Q10(a)	Works with the range	1 or	A	71.8 – 65.2 (=6.6) **OR** 65.2 to 71.8
	Accurate figure	2	AB	6.6
Q10(b)	Writes a suitable statement or accurately gives a suitable alternative statistic	1	C	e.g. The temperature goes down after day 6 **OR** The mean temperature is 68(.02…)
	Total marks for question	**3**		

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Question	Process	Mark	Mark Grid	Evidence
Q11(a)	Order large numbers accurately	1	A	e.g. 94500 121 000 123950 149000 249000 389000 **OR** C, E, A, F, B, D May be indicated in the table Accept vertical lists and transcription errors if in correct position
Q11(b)	Use a table to identify numbers greater than £125000	1	B	Identifies 149000, 249000 & 389000
Q11(c)	Process to find 5% of purchase price	1 or	C	255000 ÷ 100 × 5 (=12750) oe **OR** (100 + 5) ÷ 100 (=1.05)
	Process to find total amount	2 or	CD	'12750' + 255000 (=267750) oe
	Accurate figure	3	CDE	267750
Total marks for question		**5**		

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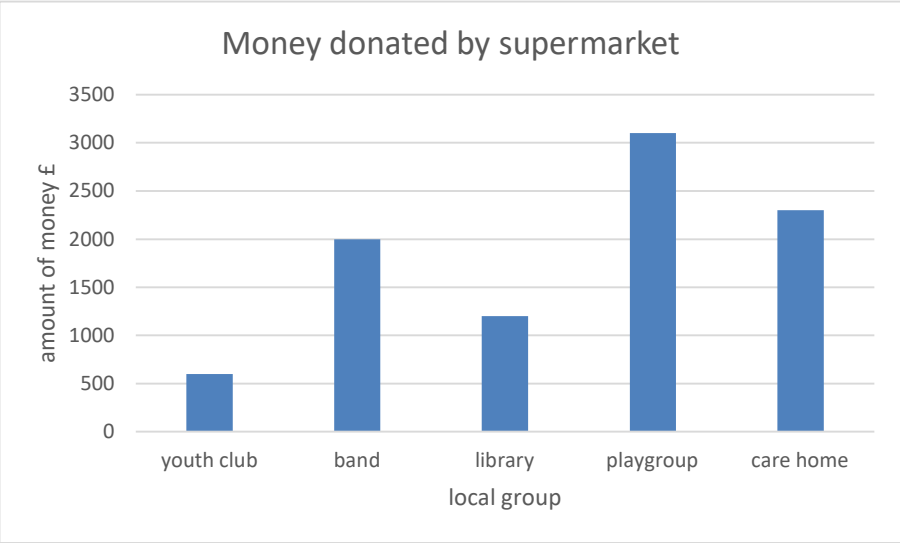
Q7 Graph example



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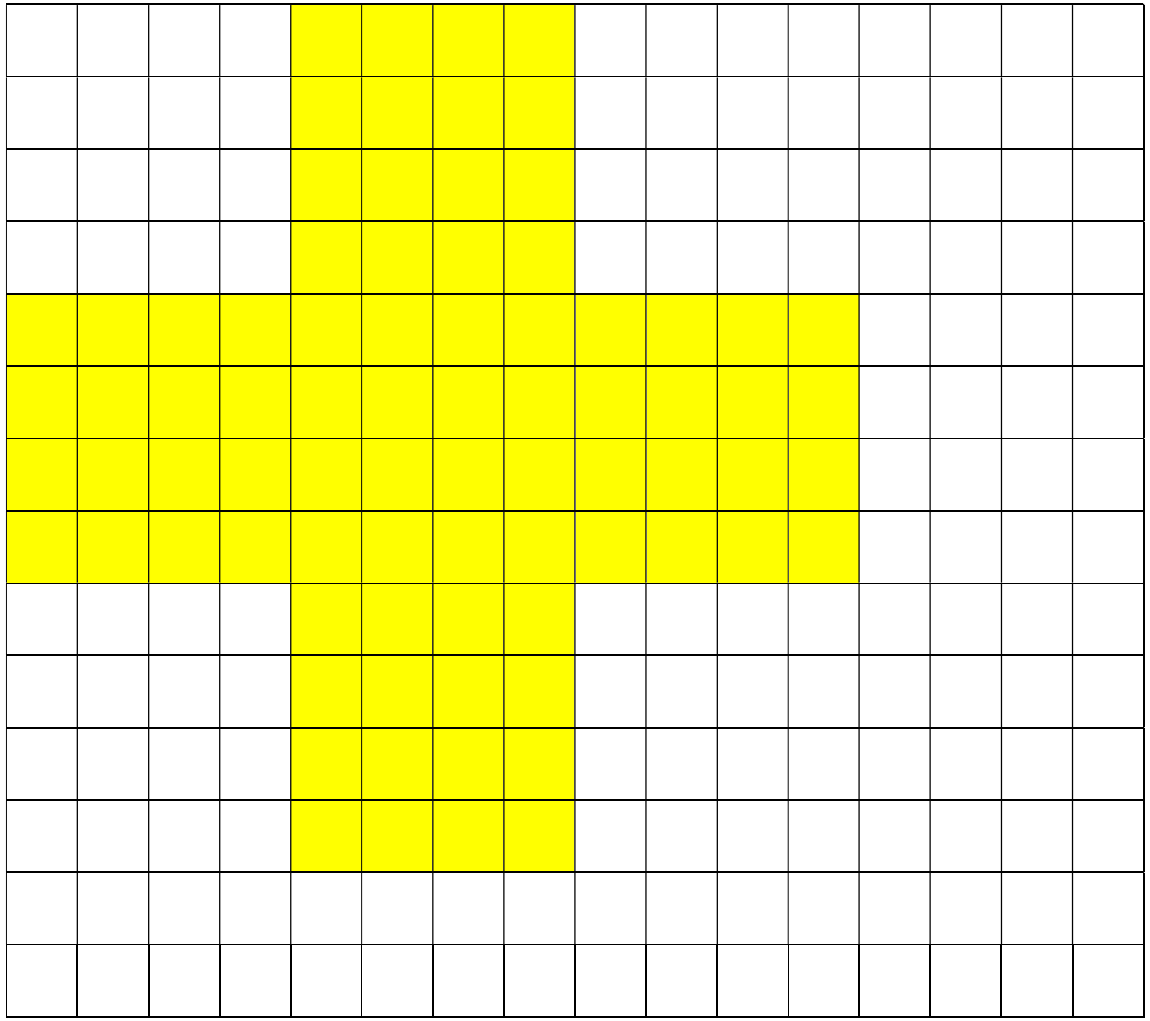
Q8 Net example