

**PEARSON EDEXCEL FUNCTIONAL SKILLS MATHEMATICS
MARK SCHEME – LEVEL 1 SET 7**

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 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- If working is **crossed out and still legible**, then it should be marked, as long as it has not been replaced by alternative work.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/N07				
Question	Process	Mark	Mark Grid	Evidence
Q1 (a)	Process to work with range	1 or	A	$4 - - 3 (= 7)$ OR $-3 - 4 (= -7)$ OR $-3 + 8 (= 5)$ OR $4 - 8 (= -4)$ OR -3 to 4
	Correct answer	2	AB	No AND 7 OR No AND 1 (difference) OR No AND 5 OR No AND -4
Q1 (b)	Valid reverse check	1	C	e.g. $7 - 3 = 4$
Total marks for question		3		

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Question	Process	Mark	Mark Grid	Evidence
Q2	Process to begin to work with simple interest	1 or	A	e.g. $(2000 \times 5) \div 100 (= 100)$ oe OR $5 \times 7 (= 35)$
	Full process to find total interest	2 or	AB	e.g. '100' $\times 7 (= 700)$ oe
	Accurate figure	3	ABC	700 NB Allow $2000 + 700 = 2700$ as long as 700 is seen
Total marks for question		3		

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Question	Process	Mark	Mark Grid	Evidence
Q3(a)	Selects correct word to describe likelihood	1	A	Likely
Q3(b)	Begins process to work with mean	1 or	B	$714 + 720 + 726 + 724 (= 2884)$ $\begin{array}{r} 7 \quad 1 \quad 4 \\ 7 \quad 2 \quad 0 \\ 7 \quad 2 \quad 6 \\ + \quad 7 \quad 2 \quad 4 \\ \hline (2 \quad 8 \quad 8 \quad 4) \end{array}$ <hr/> OR $14 + 20 + 26 + 24 (= 84)$ OR difference from a chosen number e.g. 726 $(-12 - 6 + 0 - 2) \div 4 (= -5)$
	Full process to work with mean	2 or	BC	$'2884' \div 4 (= 721)$ $\begin{array}{r} 7 \quad 2 \quad 1 \\ 4 \overline{) 2 \quad 8 \quad 8 \quad 4} \end{array}$ OR $'84' \div 4 (= 21)$ OR difference from a chosen number e.g. 726 e.g. $726 + ((-12 - 6 + 0 - 2) \div 4) (= 721)$
	Accurate figure	3	BCD	721
Total marks for question		4		

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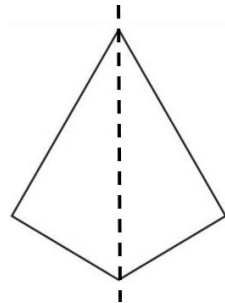
Question	Process	Mark	Mark Grid	Evidence
Q4	Begins to work with percentage	1 or	A	e.g. $3 \times 20 \div 100 (= 0.6)$ OR $(100 + 20) \div 100 (= 1.2)$
	Full process to work with percentage	2	AB	e.g. $3 + '0.6' (= 3.6)$ OR $'1.2' \times 3 (= 3.6)$
	Process to work with 10 boxes of pasta	1 or	C	e.g. $3 \times 10 (= 30)$ OR $'3.6' \times 10 (= 36)$ OR $'0.6' \times 10 (= 6)$
	Accurate figure	2	CD	36 NB working must be shown
Total marks for question		4		

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Section B (Calculator)

PMAT1/C07				
Question	Process	Mark	Mark Grid	Evidence
Q1	Works in consistent units	1	A	e.g. 21 (cm) or 14.8 (cm) or 71.6 (cm) OR 720 (mm) May be seen in subsequent working
	Full process to find figures to compare	1 or	B	e.g. $210 + 210 + 148 + 148 (= 716)$ oe OR '720' – 210 – 210 – 148 (= 152) OR '720' – 148 – 210 – 148 (= 214)
	Valid decision with accurate figures	2	BC	e.g. Yes AND 71.6 (cm) oe OR Yes AND 152 (mm) OR Yes AND 214 (mm) OR Yes AND 4 (mm)
Total marks for question		3		

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Question	Process	Mark	Mark Grid	Evidence
Q2(a)	Gives probability using 26 counters or identifies the total number of orange counters	1 or	A	$\frac{a}{26}$ and $a < 26$ OR $26 - 5$ (= 21 orange counters) indicated
	Accurate probability	2	AB	$\frac{21}{26}$ oe ISW incorrect simplification of their fraction
Q2(b)	Correct line of symmetry	1	C	1 vertical line of symmetry drawn in correct position AND no other lines drawn 
Q2(c)	Correctly measures angle	1	D	300 ± 2
Total marks for question		4		

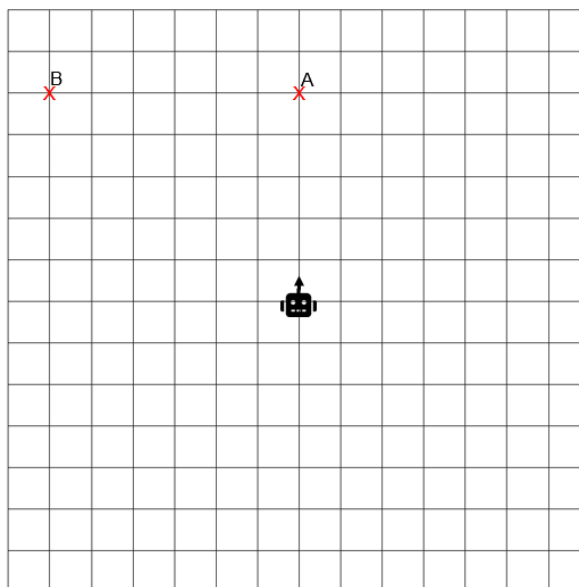
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Question	Process	Mark	Mark Grid	Evidence
Q3(a)	Accurate figure	1	A	3257
Q3(b)	Correct answer	1	B	One thousand and twenty-four
Q3(c)	Uses consistent units or begins to process data	1 or	C	e.g. $21000 \div 1000 (=21)$ OR 21 stated OR Gives frequency for 0 to 2 as 3 and attempts to populate at least 1 other group
	Begins the process to place the data into the table and uses a conversion	2 or	CD	Populates table correctly with the data for 2 groups
	Fully accurate table	3	CDE	All appropriate headings linked with correct frequency of 3 and 11 and 6 (see diagram below)
Total marks for question		5		

weight (kg)	tally	frequency
0 to 2		3
3 to 20		11
21 to 30		6

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Question	Process	Mark	Mark Grid	Evidence
Q4	Process to work with scale or show bearing	1	A	e.g. $60 \div 10 (=6)$ or $50 \div 10 (=5)$ NB can be stated or implied by at least 1 correct position marked on the grid OR Indicates use of a bearing of 270 degrees at ‘position A’
	Develops solution	1 or	B	Indicates a distance of 5 squares vertically or 6 squares horizontally and indicates use of a bearing of 270 degrees at ‘position A’
	Correctly marks position A and position B	2	BC	Crosses seen with labels NB – accept any unambiguous mark for the final location
Total marks for question		3		



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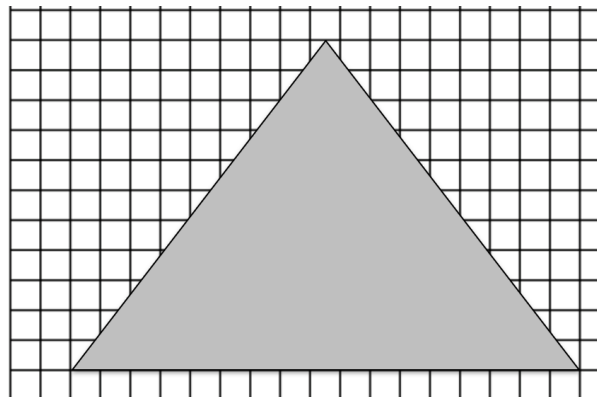
Question	Process	Mark	Mark Grid	Evidence
Q5	Process to work with volume	1 or	A	$20 \times 20 \times 20 (= 8\,000)$
	Accurate figure	2	AB	8 000
	Correct units	1	C	$(8\,000)\text{cm}^3$
Total marks for question		3		

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Question	Process	Mark	Mark Grid	Evidence
Q6	Work out number of units used	1	A	$22198 - 20312 (= 1886)$
	Process to find total cost of electricity used or total standing charge	1 or	B	e.g. $\{\text{units}\} \times 5.4 (= 10184.4)$ OR $30 \times 16.74 (= 502.2)$
	Process to find total cost of electricity used and total standing charge	2	BC	$\{\text{units}\} \times 5.4 (= 10184.4)$ and $30 \times 16.74 (= 502.2)$
	Process to find total bill	1	D	e.g. $'10184.4' + '502.2' (= 10686.6)$ OR $'10584' - '10184.4' (= 399.6)$ OR $'10584' - '502.2' (= 10081.8)$
	At least 1 conversion into pounds	1 or	E	e.g. $'10686.6' \div 100 (= 106.8\dots)$ OR $105.84 \times 100 (= 10584)$
	Valid decision with accurate figure	2	EF	No AND (£)106(.866) OR No AND 399(.6p) and 502(.2p) OR No AND 10081(.8p) and 10184(.4p)
Total marks for question		6		

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Question	Process	Mark	Mark Grid	Evidence
Q7	Process to begin to work with scale or draws correct shape of incorrect size	1 or	A	e.g. $34 \div 2 (=17)$ or $22 \div 2 (=11)$ May be implied by drawing OR Draws an isosceles triangle
	Draw an isosceles triangle with one side correct	2 or	AB	Isosceles triangle with base of 17 squares OR height of 11 squares
	Fully correct drawing	3	ABC	Isosceles triangle drawn with base of 17 squares AND height of 11 squares
Total marks for question		3		



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Question	Process	Mark	Mark Grid	Evidence
Q8	Process to work with total number of students or proportion	1 or	A	$13 + 17 + 20 (= 50)$ OR $13 \div 16 (= 0.8125)$ or $17 \div 16 (= 1.0625)$ or $20 \div 16 (= 1.25)$
	Full process to work with proportion	2 or	AB	e.g. $'50' \div 16 (= 3.125)$
	Accurate figures with appropriate rounding	3	ABC	4
Total marks for question		3		

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Question	Process	Mark	Mark Grid	Evidence
Q9a	Process to begin to work with percentage discount	1 or	A	e.g. $205 \times 15 \div 100 (=30.75)$ oe OR $(100 - 15) \div 100 (=0.85)$
	Full process to find new cost	2 or	AB	$205 - 30.75 (= 174.25)$ OR $205 \times '0.85' (= 174.25)$
	Accurate figure	3	ABC	174.25
Q9b	Valid check	1	D	e.g. $200 \times 15 \div 100 (= 30)$ OR $174.25 + 30.75 (=205)$
Total marks for question		4		

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Question	Process	Mark	Mark Grid	Evidence
Q10	Begins process to work with formula	1 or	A	e.g. $5 \times 2.2 (= 11)$ OR $2.2 \div 2.75 (= 0.8)$
	Full process to work with formula	2 or	AB	$5 \times 2.2 \div 2.75 (= 4)$ oe
	Accurate figure	3	ABC	4
Total marks for question		3		

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Question	Process	Mark	Mark Grid	Evidence
Q11	Process to calculate with unitary fraction	1	A	$180 \div 4 (= 45)$ oe
	Starts process to calculate with non-unitary fraction	1 or	B	$180 \div 9 (= 20)$ oe
	Full process to calculate with non-unitary fraction	2 or	BC	$180 \div 9 \times 2 (= 40)$ oe
	Full process to find number of people	3 or	BCD	$180 - '45' - '40' (= 95)$
	Accurate figure	4	BCDE	95 NB could add fractions first but level 2 approach
Total marks for question		5		