

Mark Scheme (Results)

Summer 2012

PLSC Primary (Year 9)

LMA01 Paper 01

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- 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 candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.
- Mark schemes will indicate within the table where, and which strands of QWC, are being assessed. Questions labelled with an **asterisk (*)** are ones where the quality of written communication will be assessed.

Using the Mark Scheme

Examiners should look for qualities to reward rather than faults to penalise. This does NOT mean giving credit for incorrect or inadequate answers, but it does mean allowing candidates to be rewarded for answers showing correct application of principles and knowledge. Examiners should therefore read carefully and consider every response: even if it is not what is expected it may be worthy of credit.

The mark scheme gives examiners:

- an idea of the types of response expected
- how individual marks are to be awarded
- the total mark for each question
- examples of responses that should NOT receive credit.

/ means that the responses are alternatives and either answer should receive full credit.

() means that a phrase/word is not essential for the award of the mark, but helps the examiner to get the sense of the expected answer.

Phrases/words in **bold** indicate that the meaning of the phrase or the actual word is **essential** to the answer.

ecf/TE/cq (error carried forward) means that a wrong answer given in an earlier part of a question is used correctly in answer to a later part of the same question.

Candidates must make their meaning clear to the examiner to gain the mark. Make sure that the answer makes sense. Do not give credit for correct words/phrases which are put together in a meaningless manner. Answers must be in the correct context.

Section A

Question Number	Answer	Mark
1	D	1
2	B	1
3	A	1
4	B	1
5	C	1
6	C	1
7	C	1
8	B	1
9	C	1
10	C	1
11	B	1
12	B	1
13	D	1
14	A	1
15	D	1
16	C	1
17	B	1
18	D	1
19	D	1
20	D	1
21	C	1
22	B	1
23	A	1
24	B	1
25	C	1
26	D	1
27	D	1
28	A	1
29	C	1
30	D	1

Section B

Question Number	Working	Answer	Mark	Notes
31	$6x = 59 - 41$ $6x = 18$ $x = 18 \div 6$ $x = 3$	(x =) 3	2	M1 for subtracting 41 from both sides A1 NB: Embedded answer = M1 A0
32	$\sqrt{25} = 5$ $5 \times 4 = 20$	20	2	M1 for $\sqrt{25}$ or 5 seen A1 NB: Ignore any units
33		39	1	B1
34	a	$-4 + 2$ $-6 + 4$ $-1 + -1$	1	B1 for two numbers from the box that sum to -2
34	b	$-6 - -2$ $-2 - 2$ $2 - 6$	1	B1 for two numbers from the box that subtract to make -4
35	$5a + 3 + 3a + 2 + 2a + 3$ $'10a + 8' = 48$ $10a = 40$ $a = 4$	(a =) 4	3	M1 For clear attempt to add all 3 sides M1 for correct method for solving <u>their</u> linear equation (must be equated to 48) A1 cao

Question Number		Working	Answer	Mark	Notes
36			Triangle with vertices at (0,1) (2,1) (0,-2)	2	B2 correct rotation B1 for correct orientation or for correct rotation anticlockwise about (0,2)
37	a		Positive (correlation)	1	B1 for "positive" or for correctly describing the relationship between the mathematics and science marks eg. 'the higher the mathematics marks the higher the science marks' oe
37	b		Correct points plotted (40, 38) and (35, 33)	2	B1 (40,38) B1 (35, 33)
37	c		Any number between 25 and 31 (inclusive)	1	B1 for number between 25 and 31 inclusive
38	a	$6x + 12 + 7x - 21$	$13x - 9$	2	M1 for at least 3 <u>out of 4</u> correct terms A1 cao
38			$2(2x + 3)$	1	B1
39	a		85	1	B1
39	b		510	1	B1 ft from their '85' (as long as their percentage was more than 50 and less than 100)

Question Number		Working	Answer	Mark	Notes
40	a		3.8×10^5	1	B1
40	b		0.00074	1	B1
40	c		585	1	B1
41		$\text{Height} = \sqrt{8^2 - 5^2}$ $= \sqrt{64 - 25}$ $= \sqrt{39}$ $= 6.24\dots$	6.24	3	M1 for $\text{Height}^2 + 5^2 = 8^2$ oe M1 for $\text{Height} = \sqrt{(64 - 25)}$ (=√39) A1 for 6.24 or better
42		3^{12} 3^8	(a =) 12 (b =) 8	2	B1 cao B1 cao
43		$45 \times 1 = 45$ $55 \times 4 = 220$ $65 \times 9 = 585$ $75 \times 3 = 225$ $85 \times 3 = 255$ $1330 \div 20 = 66.5$	66.5	3	M1 for finding fx with x consistently within intervals (including the end points) – allow 1 error M1 (dep) for $\sum fx \div '20'$ (their '20' must be $\sum f$) A1 cao
44	a	Area = $\frac{1}{2} (\pi \times (12/2)^2)$ (= 56.5....)	57	3	M1 for $\pi \times (12/2)^2$ oe or 113 seen A1 for 56.5 B1 for 57 cao
44	b	$570 \div 57$	10cm	1	B1 ft $570 \div$ their area

45	a	$1/3 + 1/5$	$8/15$	1	B1 oe (decimal answer must be 0.53 or better)
45	b	$1 - 8/15$ $= 7/15$	$7/15$	1	B1 ft 1 - their (a)

Question Number		Working	Answer	Mark	Notes
46	a		-2, -4, 14	2	B2 for all three correct values (B1 for 2 values correct)
46	b			2	B1 ft for at least 5 of their points plotted correctly B1 ft (dep on all 6 of their points plotted correctly) for smooth curve through all 6 points
46	c		$1.5 \leq x < 2$	1	B1 ft (dep on at least B1 in part b) for reading the x value for $y = 3$ from their graph NB: Must show evidence that value has been read from their graph
47		$6x = 18$ $x = 3$ $y = 4$	$x = 3$ $y = 4$	3	M1 for correct elimination of one variable A1 for $x = 3$ A1 for $y = 4$
48	a		LH column: $\frac{2}{3}$ RH column: $\frac{3}{5}$ $\frac{2}{5}$ $\frac{2}{5}$	2	B1 for $\frac{2}{3}$ in LH column B1 for $\frac{3}{5}$; $\frac{2}{5}$; $\frac{2}{5}$ in right hand column
48	b	$\frac{1}{3} \times \frac{3}{5} = \frac{3}{15} = \frac{1}{5}$	$\frac{3}{15}$	2	M1 for $\frac{1}{3} \times \frac{3}{5}$ A1 for $\frac{3}{15}$ oe

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