

Mark Scheme (Results)

Summer 2014

Pearson Edexcel PLSC in Mathematics Year 9
(LMA01/01)

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Publications Code PL039765

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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.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Section A

Question number	Answer	Mark
1	C 12	1
2	D $4x - 8$	1
3	C 122°	1
4	B 0.04	1
5	C $9x - y$	1
6	A $\frac{5}{20}$	1
7	C 24 cm	1
8	A 8.03	1
9	C 4^{10}	1
10	C (4,2)	1
11	A 36	1
12	B $2 \times 2 \times 3 \times 3$	1
13	C 29	1
14	C 78.5cm^2	1
15	D 192cm^3	1

Question number	Answer	Mark
16	D 6400 mm^2	1
17	D $5n+3$	1
18	B 14	1
19	A 30 cm^2	1
20	D $\frac{1}{4}$	1
21	B 8.25 cm	1
22	B 3.2×10^{-3}	1
23	D $x^2+9x+18$	1
24	A $-4 < x \leq 2$	1
25	D 350	1
26	D $4\frac{1}{2}$	1
27	C 15%	1
28	A $(x+6)(x-6)$	1
29	C $8a^2$	1
30	D $2y=8x-3$	1

Section B

Question number	Working	Answer	Mark	Notes
31	$4x = 18 + 3$ $4x = 21$ $x = 21/4$	$x = 5.25$ or $21/4$	2	M1 for adding 3 to both sides or dividing all terms by 4 A1
32	eg. $8 \times 4 + 2 \times 6$	44	3	M1 for obtaining the area of one relevant rectangle eg. $8 \times 4 (=32)$ M1 for a complete method A1
33)a)	$4n - 1$	$4n - 1$	2	M1 for $4n$ A1
33) b)		79	1	B1
34)		0.4	1	B1
35)	$3a + 20 + 5a - 40 + 2a = 180^\circ$ $10a - 20 = 180^\circ$ $10a = 180 + 20$ $10a = 200$ $a = 200 \div 10 = 20$	$a = 20$	3	M1 for clear attempt to add all 3 angles and equate to 180 M1 for $10a - 20$ seen A1
36)a)		6^{10}	1	B1
36)b)		8^6	1	B1
36)c)		$1/16$ or 0.0625	2	M1 for $1/4^2$ A1
37) a)		$5(x + 6)$	1	B1
37)b)		$8x^2 - 24x$	1	B1
37)c)		$x = y + 4$	1	B1
38)	Angle BED = $90 - 76 = 14^\circ$ Angle EDB = $180 - 64 = 116^\circ$ Angle EBD = $180 - 14 - 116 = 50^\circ$ Alternative method Angle DBC = $180 - 90 - 64 = 26^\circ$ Angle EBD = $76 - 26 = 50^\circ$	50	3	M1 for correct method to find Angle ABE, EBC, DBC, BED or BDE M1 for correct method to find a second angle in the triangle EBD, or a second relevant angle at B A1
39)a)		$30 \leq m < 40$	1	B1
39)b)	$(5 \times 2) + (15 \times 4) + (25 \times 4) + (35 \times 6) + (45 \times 4) (=560)$ $560 \div 20 = 28$ $10+60+100+210+180 = 560$	28	3	M1 for multiplying frequency by midpoint M1 (dep) for $\sum fx / 20$ A1
40)a)		3×10^7	1	B1
40)b)		0.00004	1	B1
40)c)		1.2×10^3	2	M1 for 12×10^2 or 1200 or for their (a) $\times 4 \times 10^{-5}$ or 30 000 000 \times their (b) A1 for 1.2×10^3

Question number	Working	Answer	Mark	Notes
41)		120	3	M1 for area of the triangle (30) or volume of the cuboid (240) M1 for complete method A1
42)	$5 \times 6 = 30$ $3+8+6+8 = 25$ $30 - 25 = 5$	5	2	M1 for $5 \times 6 = 30$ A1
43a)	$\frac{200}{4 \times 10}$	5	2	M1 for rounding at least two of the numbers to 1 significant figure A1
43b)		0.00040	1	B1
44a)		3/7	1	B1
44b)		4/7	1	B1 ft from 1 - their (a) if $0 < (a) < 1$
45)	$8^2 + 12^2 = 208$ $\sqrt{208} = 14.4222051\dots$	14.4(222051...)	3	M1 for $8^2 + 12^2$ M1 for $\sqrt{(8^2 + 12^2)}$ A1
46a)		LH column: 7/10 RH column: 7/10 3/10 7/10	2	B1 for 7/10 in LH column B1 for 7/10; 3/10; 7/10 in RH column
46b)	$3/10 \times 3/10 = 9/100$	9/100	2	M1 for $3/10 \times 3/10$ A1 for 9/100
47a)		90	1	B1
47b)	eg. $360 - (90+90+50)$ $360 - 230$	130	2	M1 for correct method A1

