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Mark Scheme (Results)

Summer 2016

PLSC Maths Year 9 (LMA)

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Summer 2016
Publications Code

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.

Section A

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

Section B

Question number	Working	Answer	Mark	Notes
31a		15f + 35	1	B1
31b	4k = 35 k = 35 / 4	(k =) 8.75	2	M1 for 4k = 28 + 7 A1
31c	$x^2 + 3x – 4x -12$	$x^2 - x -12$	2	M1 for three out of four correct terms OR for all four correct terms but with signs wrong/omitted A1
32a		(2, 3)	1	B1
32b		Point plotted correctly at (4, 0)	1	B1
33a		6.2	1	B1
33b	11 × 36 = 396 13 × 97 = 1261 15 × 55 = 825 17 × 25 = 425 19 × 15 = 285 (396+1261+825+425+285) / (36+97+55+25+15) 3192 / 228	14	3	M1 for ∑fx where x is a consistent value in each range M1 for ∑fx / ∑f where x is the midpoint A1
34a		2 × 3 × 3 × 7	2	M1 for any correct factorising of 126 or for 2, 3, 3, 7 without multiplication A1
34b	48 = 2×2×2×2×3 64 = 2×2×2×2×2×2 2×2×2×2 = 16	16	2	M1 for listing factors of 48 AND 64 (condone one error or omission) OR for correctly expressing both numbers in terms of their prime factors A1
34c	9 = 3×3 15 = 3×5 $24 = 3×2^3 = 3×8$	360	2	M1 for a complete correct method (condone one arithmetic error) A1
35		Correct reflection	1	B1
36a		42	1	
36b		0.7 m	2	M1 for 28 ÷ (8 × 5) oe A1 for correct answer with correct units SC:B1 for an answer of $7 × 10^x$

Question number	Working	Answer	Mark	Notes
37a		-1, -4	1	B1 for both terms
37b		6, 10, 14	1	B1 for all three terms
37c		4n – 3	1	B1
38	eg. 400 / 40 = 10 360 / 10 = 36	36	2	M1 complete correct method A1
39a		0.33	1	B1
39b		40	1	B1
39c		2/5, 2/4, 3/4 , 1/4	2	B2 for all 4 correct (B1 for at least 2 correct)
40a		360°	1	B1
40b		540°	1	B1
41a		a^{14}	1	B1
41b		a^{3}	1	B1
41c		a^{10}	1	B1
42	eg. 6x + 4y = 43 6x – 9y = 69 -13y = 26 y = -2 6x + (4 × -2) = 43 6x = 51 x = 8.5	x = 8.5 y = -2	3	M1 for a correct method that would allow elimination of one variable A1 for finding x A1 for finding y
43	200×1.04^2	\$216.32	2	M1 for correct method A1
44a		8.35×10^{-4}	1	B1
44b		320 000	1	B1
44c	740 + 9610 = 10350	1.035×10^4	2	M1 for 740 + 9610 or for digits 1035(0) A1
45	(4 × 3) / 2 = 6 (4 × 3) / 2 = 6 3 × 6 =18 5 × 6 =30 4 × 6 =24 6+6+18+30+24	$84cm^2$	2	M1 for at least three correct faces out of five faces that are added together A1
46	$\sqrt{(14^2 – 9^2)}$ $\sqrt{(196 – 81)}$ $\sqrt{115}$	$\sqrt{115}$ or 10.7(23805…)	2	M1 for $14^2 - 9^2$ A1
47	$55/360 \times (\pi \times 7 \times 7)$ $= 539/72\ \pi$ $= 7.486\ \pi$	Answer in the range $23.5 \leq x < 23.6$	2	M1 for complete correct method A1