Mark Scheme (Results)

October 2022

Pearson Edexcel iPrimary Lower Secondary Mathematics
Year 9 Mathematics (LMA11)
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.

iLower Secondary LMA11 October 2022
Mark Scheme

Section A

Question number	Answer	Mark
1	A – CORRECT ANSWER B – Subtracts terms in p and q C – Subtracts terms in p D – Subtracts terms in q	1

Question number	Answer	Mark
2	A – Does not identify any line of symmetry B – Only identifies 1 line of symmetry (probably vertical) C – CORRECT ANSWER D – Number of sides	1

Question number	Answer	Mark
3	A – CORRECT ANSWER B – Alternate angles C – Alternate angles D – Opposite angles	1

Question number	Answer	Mark
4	A – Part of circumference that forms the sector B – Two lines either side of the sector C – CORRECT ANSWER D – Only part of the shaded area	1

Question number	Answer	Mark
5	A – Most obvious common factor B – CORRECT ANSWER C – Lowest Common Multiple D – Product of 60 and 90	1

Question number	Answer	Mark
6	A – CORRECT ANSWER B – Truncated to 3dp C – Rounded to 3dp D – Truncated to 3sf	1

Question number	Answer	Mark
7	A – Subtracts 140 then divides by 4 B – CORRECT ANSWER C – Subtracts 140 then multiplies by 4 D – Adds 140 then multiplies by 4	1

Question number	Answer	Mark
8	A – (120 ÷ (5 + 3)) × 3 B – (120 ÷ 5) × 3 C – (120 ÷ (5 + 3)) × 5 D – CORRECT ANSWER	1

Question number	Answer	Mark
9	A – Divides (instead of multiplying) B – Multiplies integer parts, and fractional parts C – Adds (instead of multiplying) D – CORRECT ANSWER	1

Question number	Answer	Mark
10	A – Ignores BIDMAS B – $4^3 + 25 \times (41 - \sqrt{64} \div 4)$ C – Subtracts $\sqrt{(64 \div 4)}$ D – CORRECT ANSWER	1

Question number	Answer	Mark
11	A – Reads from 20 on y-axis to point plotted B – Reads from 20 on y-axis to line of best fit C – CORRECT ANSWER D – Reads from 20 on x-axis to point plotted	1

Question number	Answer	Mark
12	A – 2 red out of 7 counters B – CORRECT ANSWER C – $^1/_4 + {}^1/_3$ D – $^2/_7 \times {}^1/_6$	1

Question number	Answer	Mark
13	A – CORRECT ANSWER B – Incorrect sign on both 1 and 6 C – Incorrect sign on the 1 D – Incorrect sign on the 6	1

Question number	Answer	Mark
14	A – Subtracts 34 then square roots B – CORRECT ANSWER C – Subtracts 34 and then halves D – Adds 34 but then halves	1

Question number	Answer	Mark
15	A – First inequality symbol incorrect B – Inequality symbols reversed C – Second inequality symbol incorrect D – CORRECT ANSWER	1

Section B

Question number	Working	Answer	Additional Guidance	Mark
16a	420 ÷ (3 + 4) = 60 3 × '60' : 4 × '60'	180 : 240	M1 for correct method or one correct value A1	2

Question number	Working	Answer	Additional Guidance	Mark
16b	eg. 420 2 × 210 2 × 105 3 × 35 5 × 7	2 × 2 × 3 × 5 × 7	M1 for correct method (eg. factor tree) or for correct answer without × signs A1 accept index notation but must be written as a product (not just identifiable from diagram)	2

Question number	Working	Answer	Additional Guidance	Mark
17a		$y = 3$	B1	1

Question number	Working	Answer	Additional Guidance	Mark
17b		Straight line from (-3, -7) to (3, 5)	M1 for a straight line graph with gradient 2 OR that goes through (0, -1) OR for any segment of the correct straight line A1 for correct graph for at least $-2 \leq x \leq 2$	2

Question number	Working	Answer	Additional Guidance	Mark
17c		$y = 7x + 8$	B1	1

Question number	Working	Answer	Additional Guidance	Mark
18a	12 + 8 + 3 + 4 + '6' + '4' + 3 + 8	48	M1 for a correct method A1	2

Question number	Working	Answer	Additional Guidance	Mark
18b		Kite Rhombus Rectangle Parallelogram	B2 for all four correct answers Otherwise B1 for a least two correct answers	2

Question number	Working	Answer	Additional Guidance	Mark
19	80 – 35 = 45 45 – 19 = 26 26 + 12 Or 35 – 12 = 23 23 + 19 = 42 80 – 42	38	M1 for correct method or for completing at least 3 values in the table correctly A1	2

Question number	Working	Answer	Additional Guidance	Mark
20a		5.67×10^5	B1 accept 567 000 oe	1

Question number	Working	Answer	Additional Guidance	Mark
20b	12 000 000 + 2 300 000 = 14 300 000	1.43×10^7	M1 for either correct conversion A1	2

Question number	Working	Answer	Additional Guidance	Mark
21a		-31	B1	1

Question number	Working	Answer	Additional Guidance	Mark
21b	$1^2 + 4 \times 1 = 1 + 4$ $2^2 + 4 \times 2 = 4 + 8$ $3^2 + 4 \times 3 = 9 + 12$	5, 12, 21	M1 for a correct method to find at least 2 terms (can be implied by at least two correct terms) A1	2

Question number	Working	Answer	Additional Guidance	Mark
21c	4, 11, 18, 25, 32, **39**, 46, 53, … 9, 14, 19, 24, 29, 34, **39**, 44, …	39	M1 for at least 5 correct terms in one sequence M1 for at least 5 correct terms in both sequence, one of which must reach 39 A1	3

Question number	Working	Answer	Additional Guidance	Mark
22		Bisector through correct arcs	B1 for correct bisector drawn B1 for correct intersecting arcs shown	2

Question number	Working	Answer	Additional Guidance	Mark
23	eg. Bigger sample size Chosen at random Less chance of bias They are from a range of different year groups etc.	[Two correct reasons]	B2 for two correct reasons with no incorrect reasons Otherwise B1 for at least one correct reason, regardless of any incorrect reasons	2

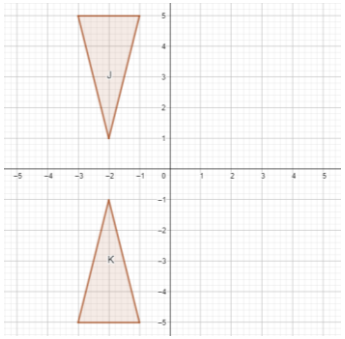
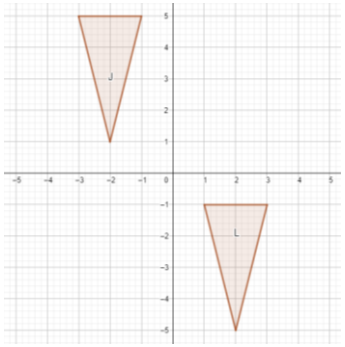
Question number	Working	Answer	Additional Guidance	Mark
24a	140 × 0.175	24.5	M1 for correct method A1	2

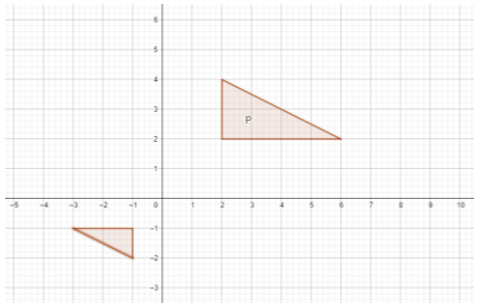
Question number	Working	Answer	Additional Guidance	Mark
24b	7500×1.025^2	7879.68(75)	M1 for correct method OR for correct interest after two years (379.6875) A1	2

Question number	Working	Answer	Additional Guidance	Mark
24c	39000 – 35880 = 3120 3120 ÷ 39000 = 0.08 0.08 × 100	8	M1 for correct method A1	2

Question number	Working	Answer	Additional Guidance	Mark
25a	m + 2m + m + 12 = 96 4m + 12 = 96 4m = 84 m = 21	42	M1 for forming a correct equation M1 for solving their linear equation OR for finding the cost of her mother's dinner A1	3

Question number	Working	Answer	Additional Guidance	Mark
25b	4d + 5c = 12.81 3d + 4c = 9.93 12d + 15c = 38.43 12d + 16c = 39.72 c = 1.29 3d + (4 × 1.29) = 9.93 3d + 5.16 = 9.93 3d = 4.77 d = 1.59	d = $1.59 c = $1.29	M1 correctly eliminating one variable M1 correct cost of either d or c M1 correct substitution or complete restart to find second variable A1	4

Question number	Working	Answer	Additional Guidance	Mark
26a(i)		Triangle drawn connecting (-2, -1), (-3, -5) and (-1, -5)	B1	1
26a(ii)		Triangle drawn connecting (1, -1), (3, -1) and (2, -5)	B1	1
26a(iii)		Rotation 180° Centre (0, -3)	B2 for all three elements of the correct description Otherwise B1 for any two correct elements	2

Question number	Working	Answer	Additional Guidance	Mark
26b		Triangle with vertices at (-2, -2), (-4, -2) and (-2, -3)	B3 for correct size, correct orientation AND correct position Otherwise B2 for two conditions met OR two correct vertices B1 for one condition met OR one correct vertex	3

Question number	Working	Answer	Additional Guidance	Mark
27	((0×2)+(1×7)+(2×10)+(3×5)) ÷ 24 ('0' + '7' +' 20' + '15') ÷ 24 '42' ÷ 24	1.75	M1 for multiplying f by x (can be implied by a least two correct products) M1 for 'Σfx' / 'Σf' A1	3

Question number	Working	Answer	Additional Guidance	Mark
28	¾ m = 0.75m = 75cm 1.76m = 176cm 75 + 176 = 251cm	No (by 1cm or 0.01m) with correct working	M1 for expressing lengths in comparable form A1 for correct decision with correct working	2

Question number	Working	Answer	Additional Guidance	Mark
29	eg. Angle BAD = Angle BCD = 60° (equilateral triangle angles are equal) Angle ABD = Angle CBD = 30° (angles in a triangle add to 180) AB = BC (equilateral triangle sides are equal) Therefore ASA	Proof	M1 for a relevant pair of equal sides or angles with correct reason M1 for all three equal aspects with reasons A1 for ASA stated with correct reasons	3

Question number	Working	Answer	Additional Guidance	Mark
30a(i)		$\frac{5}{12}$	B1	1
30a(ii)		0	B1	1

Question number	Working	Answer	Additional Guidance	Mark
30b	0.21 × 0.87 + 0.79 × 0.13	0.2854	M1 for 0.21×'0.87' (=0.1827) or '0.79'×0.13 (=0.1027) M1 0.21×'0.87' (=0.1827) + '0.79'×0.13 (=0.1027) A1 accept working shown on a tree diagram	3

Question number	Working	Answer	Additional Guidance	Mark
31	102.5 + 106.5	209.(0)	M1 for 102.5 or 103.5 or 106.5 or 107.5 A1	2

Question number	Working	Answer	Additional Guidance	Mark
32	$158^2 + 139^2$ (= 44285) $\sqrt{158^2 + 139^2}$ or √44285 (= 210.4...)	210.4	M1 for correct first step of Pythagoras M1 for correct manipulation A1 cao	3

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