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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 2021
Mark Scheme

Section A

Question number	Answer	Mark
1	A – has 3 lines of symmetry B – CORRECT ANSWER C – has no lines of symmetry D – has 2 lines of symmetry	(1)

Question number	Answer	Mark
2	A – CORRECT ANSWER B – all factors of 16 and 20 C – common prime factors D – common multiples	(1)

Question number	Answer	Mark
3	A – fails to multiply second term in each bracket B – fails to multiply second term in each bracket and then adds C – CORRECT ANSWERS D – expands brackets correctly but then adds	(1)

Question number	Answer	Mark
4	A – CORRECT ANSWER B – opposite angles C – co-interior angles D – alternate angles	(1)

Question number	Answer	Mark
5	A – CORRECT ANSWER B – goes through the centre C – wrong straight line D – formed using this line, but also needs an arc	(1)

Question number	Answer	Mark
6	A – 3 digits B – 3 decimal places C – truncated to 3sf D – CORRECT ANSWER	(1)

Question number	Answer	Mark
7	A – $120 \div (3 + 5) \times 3$ B – CORRECT ANSWER C – $120 \div (3 + 5) \times 5$ D – $(120 \div 3) \times 5$	(1)

Question number	Answer	Mark
8	A – CORRECT ANSWER B – $^{11}\!/_6 - ^3\!/_4$ C – $1^1\!/_6 + ^3\!/_4$ D – $^{11}\!/_6 + ^3\!/_4$	(1)

Question number	Answer	Mark
9	A – $100 + \sqrt{121} \times 4 - 13 - 7^2$ (without using BIDMAS) B – $100 + (\sqrt{121 \times 4} - 13) - 7^2$ C – CORRECT ANSWER D – $(100 + \sqrt{121}) \times 4 - 13 - 7^2$	(1)

Question number	Answer	Mark
10	A – $^1\!/_7 + ^1\!/_7$ B – $^{\text{Number of I's}}\!/_{\text{Total number of letters}}$ C – CORRECT ANSWER D – $^2\!/_{14} \times ^1\!/_{13}$	(1)

Question number	Answer	Mark
11	A – reads 25 off y-axis and finds x-coordinate of point drawn B – reads 25 off x-axis and finds y-coordinate of point drawn C – reads 25 off y-axis then uses line of best fit to find x-coordinate D – CORRECT ANSWER	(1)

Question number	Answer	Mark
12	A – substitutes 60 into both p and n then adds the 15 to find 'T' B – CORRECT ANSWER C – substitutes 60 into p then solves to find 'n' D – substitutes 60 into n then solves but without using the 15	(1)

Question number	Answer	Mark
13	A – $(x-2)(x+12) = x^2 + 10x - 24$ B – $(x+2)(x-12) = x^2 - 10x - 24$ C – CORRECT ANSWER D – $(x-4)(x+6) = x^2 + 2x - 24$	(1)

Question number	Answer	Mark
14	A – $-1 < x < 4$ B – $-1 < x \leq 4$ C – CORRECT ANSWER D – $-1 \leq x \leq 4$	(1)

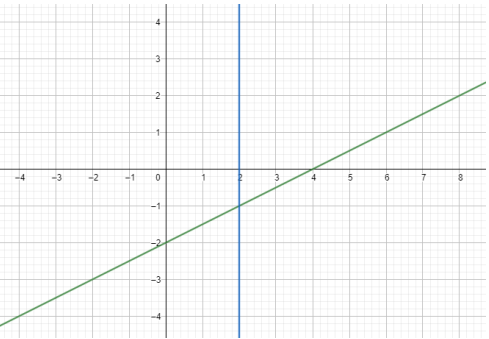| Question number	Answer	Mark
15	A – CORRECT ANSWER B – adds the 30 then square roots C – subtracts the 30 but then halves D – adds the 30 then halves	(1)

Section B

Question number	Working	Answer	Additional Guidance	Mark
16a	10 + 2 + 3 + 6 + '7' + '8'	36	M1 for adding six sides A1	(2)

Question number	Working	Answer	Additional Guidance	Mark
16b	360 – (110 + 60 + '110')	80	M1 for subtracting from 360 OR for showing that angles on right and left are equal A1	(2)

Question number	Working	Answer	Additional Guidance	Mark
17a	2 ÷ 4 oe	0.5	M1 for '2' / '4' (if not 2/4 clear and unambiguous evidence must be seen for the award of this mark) A1	(2)

Question number	Working	Answer	Additional Guidance	Mark
17b		[Correct graph drawn]	B1	(1)

Question number	Working	Answer	Additional Guidance	Mark
18	$100 \div (9 + 7) = 6.25$ 2×6.25	12.50	M1 for $100 \div (9 + 7)$ (=6.25) A1	(2)

Question number	Working	Answer	Additional Guidance	Mark
19a	$17 - 9 = 8$ $36 - 17 = 19$ $9 + 13 = 22$ '19' $- 13 = 6$ '8' $+$ '6' $= 14$	<table><tr><td></td><td>**Red**</td><td>**Green**</td><td>**TOTAL**</td></tr><tr><td>**Boys**</td><td>9</td><td>**8**</td><td>17</td></tr><tr><td>**Girls**</td><td>13</td><td>**6**</td><td>**19**</td></tr><tr><td>**TOTAL**</td><td>**22**</td><td>**14**</td><td>36</td></tr></table>	M1 for at least 3 correct answers A1 for all 5 correct answers	(2)

Question number	Working	Answer	Additional Guidance	Mark
19b		$^9/_{17}$ oe	M1 for 9/x or y/17 A1	(2)

Question number	Working	Answer	Additional Guidance	Mark
19c	$(^7/_9 \times ^3/_{10}) + (^2/_9 \times ^7/_{10})$ $^{21}/_{90} + {}^{14}/_{90}$	$^{35}/_{90}$ oe	M1 for $^7/_9 \times ^3/_{10}$ $(= {}^{21}/_{90})$ M1 for $^2/_9 \times ^7/_{10}$ $(= {}^{14}/_{90})$ A1	(3)

Question number	Working	Answer	Additional Guidance	Mark
20a	$11 - 4 = 7$ $7 - 4 = 3$ $3 - 4 = -1$ $-1 - 4 = -5$	-5	B1	(1)

Question number	Working	Answer	Additional Guidance	Mark
20b	$3 \times 1 - 7 = -4$ $3 \times 2 - 7 = -1$ $3 \times 3 - 7 = 2$ $3 \times 4 - 7 = 5$	-4, -1, 2, 5	M1 for at least two correct terms A1	(2)

Question number	Working	Answer	Additional Guidance	Mark
20c	7, 15, 23, **31**, 39, 47, 55, 63, 71, 79, 87, 95, **103** 4, 13, 22, **31**, 40, 49, 58, 67, 76, 85, 94, **103**	103	M1 for a correct sequence that reaches 3 digits M1 for both sequences correctly reaching 3 digits or for '31' + 72 A1 with evidence of correct working If no marks are scored, award SC:B1 for 31 as answer with no evidence of incorrect working	(3)

Question number	Working	Answer	Additional Guidance	Mark
21		[Straight line drawn from (0, 300) to (8, 0)]	B1	(1)

Question number	Working	Answer	Additional Guidance	Mark
22	eg. 		210	 	2	105	 	3	35	 	5	7		$2 \times 3 \times 5 \times 7$	M1 for correct decomposition (condone one arithmetic error) or for an answer of 2 3 5 7 A1 accept dot notation	(2)

x

Question number	Working	Answer	Additional Guidance	Mark
23a		1.65×10^6 or 1 650 000	B1	(1)
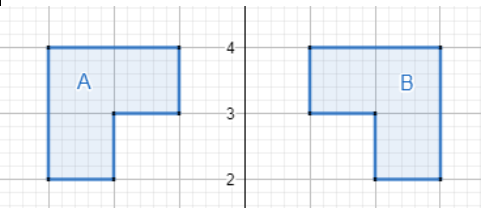
Question number	Working	Answer	Additional Guidance	Mark
23b	9.9999×10^4 = 99 999 8×10^5 = 800 000 1.75×10^5 = 175 000 5.2×10^4 = 52 000	5.2×10^4 99 999 175 000 8×10^5	M1 for values written in comparable format (condone one error) A1 accept all answers in any format	(2)

Question number	Working	Answer	Additional Guidance	Mark
24		[Correct bisector drawn]	B1 for a correct pair of interesting arcs B1 for a correct bisector	(2)

Question number	Working	Answer	Additional Guidance	Mark
25a	72×1.14	82.08	M1 for a correct method to find 14% (=10.08) or for 1.14 seen A1	(2)

Question number	Working	Answer	Additional Guidance	Mark
25b	eg. $61.88 - 52 = 9.88$ $9.88 \div 52 = 0.19$ 0.19×100	19	M1 for correct method A1	(2)

Question number	Working	Answer	Additional Guidance	Mark
25c	2700×1.03^4	3038.87(3787)	M1 for correct method (could be implied by correct balance or interest for at least 2 years) A1	(2)

Question number	Working	Answer	Additional Guidance	Mark
26a		[Hexagon with vertices at (1, 3), (1, 4), (3, 4), (3, 2), (2, 2) and (2, 3) drawn]	B1 condone omission of label B	(1)

Question number	Working	Answer	Additional Guidance	Mark
26b		[Hexagon with vertices at (-2, 0), (-2, -1), (-1, -1), (-1, -2), (-3, -2) and (-3, 0) drawn]	B1 condone omission of label C	(1)

Question number	Working	Answer	Additional Guidance	Mark
26c		180° Rotation about (0, 1) OR Reflection in the line y = 1 – x	M1 for two of the three A1 OR M1 for reflection and correct line drawn, or for y = 1 – x A1	(2)

Question number	Working	Answer	Additional Guidance	Mark
27a	4900 – (2350 + 1750) OR 4.9 - (2.35-1.75)	800ml oe	M1 for correct addition (regardless of units) A1 accept 0.8 litres	(2)

Question number	Working	Answer	Additional Guidance	Mark
27b		5.745 5.755	B1 B1	(2)

Question number	Working	Answer	Additional Guidance	Mark
28	eg. $q = r + 15$ $r = s + 24$ $q + r + s = 150$ $(r + 15) + r + (r – 24) = 150$ $3r – 9 = 150$ $3r = 159$ $r = 53$ $s = r – 24$ $s = 53 – 24$	29	M1 for forming a correct equation with any single variable M1 for solving equation to find any variable q (=68), r (=53) or s (=29) A1	(3)

Question number	Working	Answer	Additional Guidance	Mark
29a	$0 \times 4 = 0$ $1 \times 8 = 8$ $2 \times 13 = 26$ $3 \times 9 = 27$ $4 \times 6 = 24$ $0 + 8 + 26 + 27 + 24 = 85$ $4 + 8 + 13 + 9 + 6 = 40$ $85 \div 40$	2.125	M1 for f × x (can be implied by at least 3 correct products) M1 (dep) 'Σfx' ÷'Σf' A1 (accept rounded or truncated answer from correct working)	(3)

Question number	Working	Answer	Additional Guidance	Mark
29b	eg. Sample size too small Wrong place to ask people Their favourite doesn't mean the best	[Two acceptable reasons]	B2 for two correct reasons (B1 for one correct reason)	(2)

Question number	Working	Answer	Additional Guidance	Mark
30		[Triangle at (5,1), (6,0), (7,1)]	M1 for correct size M1 for correct orientation A1	(3)

Question number	Working	Answer	Additional Guidance	Mark
31	17 – 6 = 11 AB = 11 = BE BC = 6 = BD 11 – 6 = 5	5	M1 for 17 – 6 (=11) M1 for '11' – 6 (= 5) or for clear indication that AB = BE or BC = BD A1	(3)

Question number	Working	Answer	Additional Guidance	Mark
32	sin 48 = 13.8 ÷ JL JL = 13.8 ÷ sin 48 JL = 13.8 ÷ 0.743…	18.56973167…	M1 for correct trig ratio M1 for sin 48=13.8÷JL oe A1 for 18.5 – 18.6	(3)

Question number	Working	Answer	Additional Guidance	Mark
33	eg. $8c + 6b = 11.36$ $11c + 4b = 14.94$ $16c + 12b = 22.72$ $33c + 12b = 44.82$ $17c = 22.1$ $c = 1.3$ $(8 \times 1.3) + 6b = 11.36$ $6b = 0.96$ $b = 0.16$ $(6 \times 1.3) + (6 \times 0.16)$	8.76	M1 for correctly forming equations that would allow elimination of one variable M1 for solving for one variable M1 for solving for both variables A1	(4)