Mark Scheme (Results)

Summer 2019

Pearson Edexcel iLower Secondary
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.

Year 9 iLower Secondary Mathematics

Question number	Answer	Mark
1	A - Alternate	(1)

Question number	Answer	Mark
2	A - Chord	(1)

Question number	Answer	Mark
3	B - t^{11}	(1)

Question number	Answer	Mark
4	B - 1.4	(1)

Question number	Answer	Mark
5	A - $^4/_{11}$	(1)

Question number	Answer	Mark
6	C - 37	(1)

Question number	Answer	Mark
7	C - $(x-8)(x+8)$	(1)

Question number	Answer	Mark
8	B - 18	(1)

Question number	Answer	Mark
9	B - 0.445	(1)

Question number	Answer	Mark
10	D - 19 400	**(1)**

Question number	Answer	Mark
11	A - 40	**(1)**

Question number	Answer	Mark
12	B - 60	**(1)**

Question number	Answer	Mark
13	A - Triangle DEF	**(1)**

Question number	Answer	Mark
14	D - $a = 7, b = 6$	**(1)**

Question number	Answer	Mark
15	C - 11, 14, 22	**(1)**

Section B

Question number	Working	Answer	Additional guidance	Mark
16	$21 = 2x + 1$ $20 = 2x$	10	M1 for 21=2x+1 oe A1	**(2)**

Question number	Working	Answer	Additional guidance	Mark
17(a)	$31970 \div 1.15$	27 800	M1 for 31 970 ÷ 1.15 oe A1	**(2)**

Question number	Working	Answer	Additional guidance	Mark
17(b)	$\dfrac{943}{2000 \times 1.15}$	41	M1 for 2000 × 1.15 (=2300) M1 (943 ÷ "2300") × 100 A1	**(3)**

Question number	Working	Answer	Additional guidance	Mark
18(a)		[Correct Bar up to 3]	B1	**(1)**

Question number	Working	Answer	Additional guidance	Mark
18(b)	$\dfrac{4+2}{3+5+6+4+2}$	$^6/_{20}$ or 0.3 or 30% oe	B2 for 30% oe B1 for 6 as numerator OR 20 as a demoninator If B0 scored: SC: B1 for "4+2"/"3+5+6+4+2" OR for 6 and 20 but in incorrect format (eg. 6:20)	**(2)**

Question number	Working	Answer	Additional guidance	Mark
19	150 $= 2 \times 75$ $= 2 \times 3 \times 25$ $= 2 \times 3 \times 5 \times 5$	$2 \times 3 \times 5^2$	M1 for decomposition with no more than one error A1	**(2)**

Question number	Working	Answer	Additional guidance	Mark
20		7n – 6 oe	M1 for 7n A1	**(2)**

Question number	Working	Answer	Additional guidance	Mark
21	$12 - 7.05 = 4.95$ $^2/_5 \times 12 = 4.80$ 42% of 12 = 5.04	Carl	M1 for correct method to find at least two correct comparable values M1 for 3 correct comparable values (e.g. 4.95, 4.80 & 5.04) A1 for Carl AND three comparable values	**(3)**

Question number	Working	Answer	Additional guidance	Mark
22		$y = 3x - 2$	M1 for y = 3x + *n* OR $y = nx - 2$ OR for correct intercept AND correct method to find gradient A1	(2)

Question number	Working	Answer	Additional guidance	Mark
23(a)		PS, PT, QS, QT, RS, RT oe	M1 for at least 4 correct answers and none incorrect, or for all 6 correct answers with repeats A1	(2)

Question number	Working	Answer	Additional guidance	Mark
23(b)	$107 \div 3 = 35.66\ldots$ OR Median = 36 $64 \div 2 = 32$ $68 \div 2 = 34$ $103 \div 3 = 34.33\ldots$ OR Median = 35 $73 \div 2 = 36.5$	Piotr and Tabassum	M1 for method to find at least 3 correct averages M1 for method to find 5 correct averages A1 for correct answer AND 5 correct averages	(3)

Question number	Working	Answer	Additional guidance	Mark
24	$\dfrac{15}{12} = \dfrac{50}{x}$ OR $\dfrac{50}{15} = \dfrac{x}{12}$ $50 \div 15 \times 12$ oe	40	M1 for correct equation formed or complete correct method A1	(2)

Question number	Working	Answer	Additional guidance	Mark
25(a)	$12h + 15 + 12h^2 - 14h$	$12h^2 - 2h + 15$	M1 for three out of four including correct signs OR four without correct signs A1	**(2)**

Question number	Working	Answer	Additional guidance	Mark
25(b)	$4 + 5 = 6m - 2m$ $9 = 4m$	2.25 oe	M1 for correctly isolating number and letter terms A1	**(2)**

Question number	Working	Answer	Additional guidance	Mark
26(a)	$15 + 20 + 8 = 43$ $43 - 32 = 11$ $15 - 11 = 4$ $20 - 11 = 9$	4, 11, 9, 8	M1 for at least 3 out of 4 correct values A1 for 4 correct values, correctly placed	**(2)**

Question number	Working	Answer	Additional guidance	Mark
26(b)	$\dfrac{32 - (15 + 20 + 8)}{32}$	$^{11}/_{32}$ or 0.34375 or 34.375% oe	B1ft their "11" (as long as it is less than 32)	**(1)**

Question number	Working	Answer	Additional guidance	Mark
27(a)	$2 \times (6{\times}8 + 8{\times}10 + 10{\times}6)$	376	M1 for complete correct method A1	**(2)**

Question number	Working	Answer	Additional guidance	Mark
27(b)	$720 \div (6 \times 8 \times 10)$ $720 \div 480$	1.5	M1 for complete correct method OR correctly finding volume A1	**(2)**

Question number	Working	Answer	Additional guidance	Mark
28(a)(i)		1	B1	**(1)**

Question number	Working	Answer	Additional guidance	Mark
28(a)(ii)		0.01 oe	B1	**(1)**

Question number	Working	Answer	Additional guidance	Mark
28(b)		4.538×10^6	B1	**(1)**

Question number	Working	Answer	Additional guidance	Mark
28(c)	$180\,000 \times 0.012 = 2\,160$	2.16×10^3	M1 for 2.16×10^n OR 2160 A1	**(2)**

Question number	Working	Answer	Additional guidance	Mark
29	$100 \div 0.5\pi$ oe $10\,000 \div 157.1\ldots$ oe	63.6 - 64	M1 for $100 \div 0.5\pi$ oe A1 If M0A0 then award SC:B1 for $100 \div 50\pi$	**(2)**

Question number	Working	Answer	Additional guidance	Mark
30	$x = 2.353535353535\ldots$ $100x = 235.3535353535\ldots$ $99x = 233$	$^{233}/_{99}$ oe	M1 for correctly multiplying by a power of 10 and then subtracting A1 from correct working	**(2)**

Question number	Working	Answer	Additional guidance	Mark
31(a)		-2, -1, 0, 1, 2, 3	B1	**(1)**

Question number	Working	Answer	Additional guidance	Mark
31(b)	$3x > 20$	$x > ^{20}/_3$ oe	M1 for adding 7 and dividing by 3 OR for an answer of 6.66… oe with no sign / incorrect sign	**(2)**

Question number	Working	Answer	Additional guidance	Mark
31(c)	$(x + 9)(x - 2) = 0$	2, -9	M1 for factorising correctly (condone incorrect signs) M1 for fully correct factorising A1 for both solutions If M0A0: SC:B2 for one correct solution	(3)

Question number	Working	Answer	Additional guidance	Mark
31(d)	$5(3x + 5) = 6(2x - 4)$ $15x + 25 = 12x - 24$ $15x - 12x = -24 - 25$ $3x = -49$	$-^{49}/_3$ oe	M1 for at least one correct expansion M1 (dep) for correctly isolating numbers and letters A1 for -16.33... oe	(3)

Question number	Working	Answer	Additional guidance	Mark
32	$7 \times 4 = 28$ $((3 + b) \div 2) \times 5 = 28$ $((3 + b) \div 2) = 5.6$ $(3 + b) = 11.2$ $b = 11.2 - 3$	8.2	M1 for correct method to find area of parallelogram M1 for correct method to find area of trapezium M1 (dep M2) for equating two areas and correct first step towards solving for b A1	(4)

Question number	Working	Answer	Additional guidance	Mark
33	tan 73 = $x \div 28$ $x = 28$ tan 73 $x = 91.58\ldots$ $85^2 + y^2 = 124^2$ $y = \sqrt{(124^2 - 85^2}$ $y = 90.28\ldots$ 91.58… - 90.28…	1.30	M1 for correct trig ratio M1 for correct method to find length of QR M1 for correct equation using Pythagoras M1 for correct method to find length of ST M1 one correct height A1	**(6)**