Mark Scheme

Q1.

Question number	Working	Answer	Notes	Marks
(a)		1.021×10^8	M1 taking both values out of standard form and adding OR correct answer not in standard form (e.g. 102 100 000 OR 10.21×10^7) A1	(2)

Question number	Working	Answer	Notes	Marks
(b)		1.124×10^4 OR 11 240	M1 for 1 400 000 − 276 000 (=1 124 000) oe M1 for '1 124 000' ÷ 100 A1	(3)

(**QU31 LMA11/01, SAM 0**)

Q2.

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

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

(**QU20 LMA11/01, Oct 2022**)

Q3.

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

(**QU10 LMA11/01, Oct 2022**)

Q4.

Question number	Working	Answer	Additional guidance	Mark
a		1.176×10^{-6} oe	B1 accept 0.000001176	(1)

Question number	Working	Answer	Additional guidance	Mark
b	0.210 0.123 0.023 0.030 0.300	0.023 0.03 0.123 0.21 0.3	B2 for all five in correct order If not B2 then B1 for all five in descending order, or for four numbers in the correct order	(2)

(**QU17 LMA11/01, Oct 2020**)

Q5.

Question number	Answer	Mark
	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)

(**QU09 LMA11/01, June 2022**)

Q6.

Question number	Working	Answer	Additional Guidance	Mark
	$\frac{4 \times 10^5 + 2 \times 10^6}{4.8 \times 10^{-3}}$	5×10^8	B2 cao (B1 for correct answer but not in standard form eg. 500 000 000 OR 5 $\times 10^n$ where $n \neq 8$)	2

(**QU31 LMA11/01, Oct 2023**)

Q7.

Question number	Working	Answer	Additional guidance	Mark
	73000 + 2900 = 75900	7.59×10^4	M1 for correct method OR for answer of 75 900 oe A1 cao	**(2)**

(**QU28 LMA11/01, June 2021**)

Q8.

Question number	Working	Answer	Additional Guidance	Mark
a		8.12×10^9	B1 cao	1

Question number	Working	Answer	Additional Guidance	Mark
b		1.019 1.099 1.109 1.11 1.9	B2 for all values in the correct order (B1 for correct descending order or for 4 out of 5 in the correct order)	2

Question number	Working	Answer	Additional Guidance	Mark
c	$\frac{361 + \sqrt{529}}{7.5 \times 1.6^2}$	20	M1 for numerator (384) or denominator (19.2) correct A1	2

(**QU16 LMA11/01, June 2023**)

Q9.

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

(**QU06 LMA11/01, Oct 2022**)

Q10.

Question number	Working	Answer	Additional guidance	Mark
	3100 + 24 000 = 27 100	2.71×10^4	M1 for 27100 oe or 2.71×10^x A1	**(2)**

(**QU30 LMA11/01, Oct 2021**)

Q11.

Question number	Working	Answer	Additional Guidance	Mark
a		1.65×10^6 or 1 650 000	B1	(1)

Question number	Working	Answer	Additional Guidance	Mark
b	$9.9999 \times 10^4 = 99\,999$ $8 \times 10^5 = 800\,000$ $1.75 \times 10^5 = 175\,000$ $5.2 \times 10^4 = 52\,000$	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)

(QU23 LMA11/01, June 2022)

Q12.

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

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

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

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

(QU28 LMA11/01, June 2019)

Q13.

Question number	Answer	Mark
	The only correct answer is D: 7^{32} ***A*** *is not correct because it divides powers* ***B*** *is not correct because it subtracts powers* ***C*** *is not correct because it adds powers*	1

(**Q09 LMA11/01, June 2024**)

Q14.

Question number	Answer	Mark
	The only correct answer is B: 192 ***A*** *is not correct because it is* $53 - \sqrt{1369} + 8 \times ((9 + 12) \div 3)$ ***C*** *is not correct because it is* $(53 - \sqrt{1369} + 8) \times ((9 + 12) \div 3)$ ***D*** *is not correct because it is* $(53 - \sqrt{1369} + 8) \times (9 + 12 \div 3)$	1

(**Q10 LMA11/01, June 2024**)