

Paper: 1MA1/2H				
Question	Answer	Mark	Mark scheme	Additional guidance
8 (a)	5.62×10^{-3}	B1	cao	
Q1 (b)	1452	B1	cao	

Paper: 1MA1/3H				
Question	Working	Answer	Mark	Notes
7 Q2		0.000 745 2	M1 A1	digits 7452 seen cao

Paper: 1MA1/1H				
Question	Working	Answer	Mark	Notes
8 (a)		0.00000797	B1	cao
(b)		6.3×10^7	M1	for partial calculation involving powers of 10 e.g. $0.63 \times 10^{5-3}$ or 6.3×10^n where $n \neq 7$ or for $n \times 10^8$ or for 63000000
Q3			A1	cao

Paper: 1MA1/2H				
Question	Working	Answer	Mark	Notes
10 (a)		Jupiter	B1	for Jupiter (accept 1.898×10^{27})
(b)		4.5388×10^{24}	B1	for 4.5388×10^{24} oe (e.g. 45.388×10^{23})
(c)		Yes (supported)	M1	for $(4.35 \times 10^9) \div (4.14 \times 10^7)$ (= 105(.07..)) or $(4.14 \times 10^7) \times 100$ (= 4.14×10^9) or $(4.35 \times 10^9) \div 100$ (= 4.35×10^7)
Q4			A1	for Yes with correct supporting evidence

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Question	Answer	Mark	Mark scheme	Additional guidance
9 (a)	4.52×10^3	M1	for $2.04\dots \times 10^7$ oe eg $2.04\dots \times 10^{-5} \div 10^{-12}$ or $20.4\dots \times 10^6$ or $204(08163.27)$ or for correct value of T , $4517.(53\dots)$, not written in standard form, eg 4520	May be given correct to 3 sig figs or more
		A1	for answer in the range 4.51×10^3 to 4.52×10^3 (SC B1 for $6.32\dots \times 10^{-1}$)	
		M1	for method to find the scale factor or decreased value in T , eg $\sqrt{\frac{1.1}{1.05^3}}$ (= 0.97.....) oe or $\sqrt{\frac{5.6 \times 10^{-5} \times 1.1}{(1.4 \times 10^{-4} \times 1.05)^3}}$ (= $4.40\dots \times 10^3$) oe	
9 (b)	Explanation	M1	(dep M1) for explanation eg value of scale factor less than 1, so a decrease in T OR compares $4.40\dots \times 10^3$ with their value of T from (a) provided answer to (a) is greater	Award mark for a correct method to calculate the scale factor or the percentage increases in w and d^3 or the decreased value of T This mark may only be awarded if supported by numerical evidence

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11 (a)	130	P1	for process to divide eg $(3.9 \times 10^7) \div (3 \times 10^5)$	Condone missing brackets
Q6	Explanation	A1	cao	Accept 1.3×10^2
		C1	Explanation referring to the time Acceptable examples The time will be more It will take longer The answer will be bigger Not acceptable examples The answer will be wrong The answer will be different	

Paper: 1MA1/1H				
Question	Answer	Mark	Mark scheme	Additional guidance
9	0.000 672, 67.2×10^{-4}	B2	cao	Accept correct numbers in any form
Q7	6.72×10^5 672×10^4	(B1)	for correct conversions to same format, condoning one error or for 3 numbers in the correct order (ignoring one) or for all 4 numbers listed in reverse order)	

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Question	Answer	Mark	Mark scheme	Additional guidance	
3	(a)	450 000	B1	cao	
	(b)	7×10^{-3}	B1	cao	
	(c)	4.73×10^3	M1	for 4730 oe or for 4.73×10^n where $n \neq 3$	
		A1	cao		
Q8					

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Question	Answer	Mark	Mark scheme	Additional guidance	
7	(a)	8.623×10^{-5}	B1	cao	7441979.0689...
	(b)	7.44×10^6	M1	for $\frac{3200 + 0.051}{0.00043}$ or $\frac{3200.051}{0.00043}$ or performs an operation eg shows 163.2, 7441860.5, 118.6(...) or an answer or $7.44(\dots) \times 10^n$ where $n \neq 6$ or 7441979(...)	
Q9			A1	for 7.4×10^6 for $7.44(1979\dots) \times 10^6$	If a correct answer is shown in working and then rounded incorrectly, award full marks. Answer need only be given correctly to 3 sig fig; if following digits are incorrect ignore them.

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Question	Answer	Mark	Mark scheme	Additional guidance
7 Q10	4.56×10^{-2}	M1 A1	for $0.000000342 \div 0.0000075$ OR for 0.0456 oe eg 0.456×10^{-1} or 45.6×10^{-3} or $\frac{57}{1250}$ OR for an answer of 4.56×10^n cao	

Paper: 1MA1/3H				
Question	Answer	Mark	Mark scheme	Additional guidance
7	(a)		cao	Decision eg “No” may be seen by the question. “She is incorrect” is equivalent to “no”
	(b)		cao	
	(c)	No with explanation	C1	
Q11				

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Question	Answer	Mark	Mark scheme	Additional guidance	
9	(a)	0.000675	B1	cao	If the answer (for 2 marks) is seen in working and then rounded or truncated, award full marks.
Q12	(b)	6.592×10^5	M1	for 10.5472×10^3 oe or 1.6×10^8 oe or 2.575×10^{-1} oe or for 6.592×10^n where $n \neq 5$ or for 6.59×10^5 or for 6.6×10^5 or for 659200 oe	
			A1	cao	

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Question	Answer	Mark	Mark scheme	Additional guidance
4 (a)	0.00163	B1	cao	
Q13	(b) 4.38×10^5	B1	cao	
	(c) 2.4×10^{-1}	M1	for $4 \times 6 \times 10^{3-5}$ or 0.24 oe eg 24×10^{-2} or 2.4×10^n where $n \neq -1$	
		A1	cao	