

Paper: 1MA1/3H				
Question	Working	Answer	Mark	Notes
2		New York (supported)	P1	for changing between £ and \$, eg $1.089 \times 1.46 (= 1.58(9.))$ or $2.83 \div 1.46 (= 1.93(8.))$ or between litres and gallons, eg $1.089 \times 3.785 (= 4.12(1.))$ or $2.83 \div 3.785 (= 0.74(7.))$
Q1			P1	for a complete process to give values that can be used for comparison, eg “ $1.938\dots \div 3.785 (= 0.51(2.))$ ” or “ $1.589\dots \dots \times 3.785 (= 6.01(7.))$ ” or $1.089 \times 3.785 = (4.12(1.))$ and $2.83 \div 1.46 (= 1.93(8.))$
			C1	for New York and correct comparative values

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Question	Answer	Mark	Mark scheme	Additional guidance
5 Q2	37 000	B1	cao	

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Q3	Yes (supported)	P1	for a process to find the volume of 1 tank eg $\pi \times 40^2 \times 160$ (= 804247.7... or 804.2...or 256000π)	Values can be truncated or rounded
		P1	for complete process to find the volume of 4 tanks, [volume of tank] \times 4 eg $\pi \times 40^2 \times 160 \times 4$ (= 3216990.8... or 3216.9... or 1024000π) or for process to find volume of fertiliser available per tank eg $32 \times 1000 \div 4$ (= 8000)	For this mark, [volume of tank] must come from a calculation involving π , r^2 , h
		P1	for a process to find the volume of fertiliser needed for 1 tank eg [volume of tank] \div 101 (= 7962.8...) or 4 tanks (= 31851.3...) OR for a process to find volume of mixture that 32 litres of fertiliser will make eg 32000×101 (= 3232000) or 32×101 (= 3232)	For this mark, [volume of tank] must come from a calculation involving π , r^2 , h or be stated as their volume.
		C1	for Yes supported by correct figures shown eg a comparable figure in the range 31.8 to 31.9 (litres) or in the range 31800 to 31900 with 32000 (cm ³) or in the range 3216 to 3217 with 3232 (litres) or in the range 3216000 to 3217000 with 3232000 (cm ³) or in the range 7958 to 7963 with 8000 (cm ³)	There are other possible pairs of values which can be used in the comparison

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7 (a)	0.008	B1	for 0.008 or 8×10^{-3}	May be awarded at any stage
(b)	50	M1	for conversion from km to m eg $180 \times 1000 (= 180\ 000)$ or for conversion from hours to seconds eg $180 \div (60 \times 60) (= 0.05)$ or for conversion from km per hour to metres per second, eg $1000 \div (60 \times 60) (= 0.277\dots)$ (Accept $(60 \times 60) \div 1000 (= 3.6)$)	
Q4		M1	for a complete process eg $180 \times 1000 \div 3600$	
		A1	cao	

Paper: 1MA1/2H				
7	No (supported)	P1	for a conversion with litres and gallons, eg $18 \div 4.5 (= 4)$ or $8 \times 4.5 (= 36)$	See page at end of mark scheme
Q5		P1	for a conversion with £ and euros, eg $27 \times 0.85 (= 22.95)$ or $40.8 \div 0.85 (= 48)$	May compare cost per gallon or cost in euros May be seen in a calculation or given in a description Accept comparative figures rounded or truncated No is implied by eg Wales is cheaper
		P1	for finding the unit price, eg $27 \div 18 (= 1.5)$ OR finding proportionality for fuel eg (" 36 " $\div 18$) (= 2)	
		C1	for No with comparative figures, eg No with 20.4 and 22.95 OR No with 1.275 and 1.133...	

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8 (a)	0.14	M1	for a method to find the gradient, eg. $14 \div 100$ using readings from the graph, at least one correct or for an answer of $0.14x$	Must use the scales on the graph
		A1	for answer in the range 0.135 to 0.145 or ft correct readings from the graph	May be expressed as a fraction
Q6 8 (b)	Cost per unit of electricity	C1	for a correct explanation Acceptable examples eg cost of each unit (of electricity) rate of change of cost with units of electricity used cost per unit of electricity each unit costs 14p average cost charged for each unit of electricity used Not acceptable examples cost of how many units used costs in pounds per number of units used how much the cost of electricity goes up the relationship of cost and number of units used how steep it is	