Question number	Answer	Notes	Marks
3 (a)	Idea of <u>electron</u> transfer ;	REJECT proton movement	2
	Due to friction / lightning ;	ALLOW rubbing / description of friction / flying through charged clouds	
(b)	Idea of spark / ignition / fire / explosion ;	IGNORE refs to electric shock IGNORE refs to charge jumping / escaping	1
(c)	(Connect to) earth / ground ;	ALLOW earthing / grounding	1
(d)	Idea of charge / current flowing in wire ;		2
	Discharges aircraft / no charge is left / no p.d. remains ;	ALLOW no overall charge / (aircraft) neutral IGNORE further discussion of danger ACCEPT "<u>all</u> charge goes to earth" for 2 marks	

Total 6 marks

Question number	Answer	Notes	Marks
6 (a) (i)	373 (K);	IGNORE any decimal places / degree sign REJECT negative values	1
(ii)	More (kinetic) energy / more quickly / faster / further apart (in steam) ; ACCEPT more freely	ACCEPT reverse argument for water REJECT vibration NB Must be a comparison	1
(iii)	Any **three** from: (Molecules) in motion / moving ; Bounce off / hit / collide with / strike inside of kettle ; Momentum changes ; There is a force (on the inside) ; pressure = force ÷ area OWTTE ;	 IGNORE molecules hitting each other IGNORE push	3
(b)	Substitution 130 x 820 = 101 x V_2 OR OR Rearrangement V_2 = (130 x 820) ÷ 101 ; Answer = 1060 (cm^3) ;	Correct answer with no working gets both marks ACCEPT 1055 (cm^3) / or with further dp after 1055 (cm^3)	2
(c)	Pressure decreases; Any **one** from: Molecules move more slowly / have less kinetic energy ; Molecules hit sides with less frequently / often ; Less momentum change / force produced (per collision or overall) ; Pressure is proportional to temperature / P ɑ T (for constant volume) ;	NB “pressure increases / stays the same” scores zero for question	2

Total 9 marks