Question number	Answer	Notes	Marks
7 (a)	pressure is force per unit area; sharp blade has smaller area; hence greater pressure (for the same force);	allow equation in words or symbols allow pressure inversely proportional to area allow RA allow RA ignore 'more force'	3
(b) (i)	fewer particles inside the canister; less (frequent) collisions with walls (of canister); (therefore) less force (on walls);	allow molecules for particles ignore 'less pressure' as given in question	3
(ii)	substitution into $p_1V_1 = p_2V_2$; rearrangement; evaluation; e.g. $2300 \times 18\,000 = N \times 100 \times 8200$ $(N =) \dfrac{2300 \times 18\,000}{100 \times 8200}$ $(N =) 50$	no mark for the equation as given -1 for POT error allow alternative methods e.g. calculate final volume of gas available from canister, divide by volume of one balloon allow $2300 \times 18\,000 = 100 \times V$ allow $N = V / 8200$ allow 50.5, 50.49 etc. condone 51	3

Total for question 7 = 9 marks