

Question Number	Answer	Mark
<b>11(a)</b>	<p>The atoms/molecules make more frequent collisions with the glass tube  <b>Or</b> The atoms/molecules have a higher rate of collision with the glass tube  <b>Or</b> The atoms/molecules make more collisions per second with the glass tube  (Do not accept collisions between molecules) (1)</p> <p>The rate of change of momentum of the atoms/molecules increases (1)</p> <p>The force exerted on the glass tube increases (1)</p> <p>(Pressure exerted by the gas increases) as pressure is force per unit area (1)</p>	<b>4</b>
<b>11(b)</b>	<p>Use of <math>pV = NkT</math> (1)</p> <p><math>N = 6.3 \times 10^{22}</math> (1)</p> <p><u>Example of calculation</u></p> $N = \frac{1.05 \times 10^5 \text{ Pa} \times 2.43 \times 10^{-3} \text{ m}^3}{1.38 \times 10^{-23} \text{ J K}^{-1} \times 293 \text{ K}} = 6.31 \times 10^{22}$	<b>2</b>
<b>Total for question 11</b>		<b>6</b>