

Question number	Answer	Notes	Marks
10 (a)	<p>particles collide with <b>walls</b> (of can);</p> <p>idea that force is produced (by bombarding particles);</p> <p>pressure is force on an area;</p>	<p>allow bombard, hit, impact upon</p> <p>allow Newton's Laws / momentum argument</p> <p>allow <math>p = F / A</math></p> <p>ignore ideas of particles closer to each other</p>	3
(b)	<p>MP1 pressure increases;</p> <p>any two from MP2 to MP4</p> <p>MP2. increase in {(average) speed / <u>kinetic energy</u>} of particles (due to higher temp);</p> <p>MP3. particles collide with wall <b>more often</b>;</p> <p>MP4. particles collide with wall with <b>more force</b>;</p>	<p>allow alternatives for particles e.g. molecules</p> <p>allow 'hit harder'</p> <p>allow greater change of momentum</p>	3
(c)	<p>substitution into <math>p_1V_1 = p_2V_2</math>;</p> <p>rearrangement;</p> <p>evaluation;</p> <p>e.g.</p> <p><math>p_1 \times 8500 = 100 \times 43000</math></p> <p><math>(p_1 =) (100 \times 43000) / 8500</math></p> <p><math>(p_1 =) 510 \text{ (kPa)}</math></p>	<p>no mark for equation as given in paper</p> <p>-1 for POT error</p> <p>allow 505.88...</p>	3

**Total for question 10 = 9 marks**