

Solutions

Each answer shows the steps, then the **result**.

2.1

- the collisions of the gas particles with the container walls

2.2

- it also doubles ($\overline{KE} \propto T$)

2.3

- $\overline{KE} = \frac{3}{2}k_B T = \frac{3}{2}(1.38 \times 10^{-23})(300) = 6.2 \times 10^{-21} \text{ J}$

3.1 B

3.2 C

3.3

(a)

- 2 : 1

(b)

- higher temperature means faster particles, which hit the walls harder and more often, raising the pressure