Molecular collisions with container walls

Gas molecules move in random directions.

Particle collides with interior wall.
Molecules contributing to gas pressure

(a) $v_x \, dt$

(b) $v_x \, dt$
\[ C_V \]

\[ 4R \]

\[ 7R/2 \]

\[ 3R \]

\[ 5R/2 \]

\[ 2R \]

\[ 3R/2 \]

\[ R \]

\[ R/2 \]

\[ O \]

\[ T (K) \]

\[ 25 \]

\[ 50 \]

\[ 100 \]

\[ 250 \]

\[ 500 \]

\[ 1000 \]

\[ 2500 \]

\[ 5000 \]

\[ 10,000 \]

\[ \text{Vibration} \]

\[ \text{Rotation} \]

\[ \text{Translation} \]

\( \text{H}_2 \text{ gas} \)
Molecular Collisions