

Worksheet: Kinetic Theory

CBSE · Class 11 · Physics · 5 questions · 12 marks

Name: _____

Date: _____

Score: _____ / 12

Q1. Find C_v and C_p for argon (monatomic) ($R = 8.314$). *[2 marks]*

Q2. What are the degrees of freedom of a diatomic gas at room temperature? *[2 marks]*

Q3. Find the rms speed of oxygen ($M = 32$ g/mol) at 27°C ($R = 8.314$). *[3 marks]*

Q4. Find the rms speed of hydrogen ($M = 2$ g/mol) at 27°C . *[2 marks]*

Q5. Calculate the mean free path of air at STP ($d = 3.5 \times 10^{-10}$ m, $T = 273$ K, $P = 1.013 \times 10^5$ Pa). *[3 marks]*
