

Worksheet: Kinetic Theory

ISC · 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]
