

高三物理 A 卷答案

單一選擇題

CBECA ECCED ABEAA EBCEB

21. BCD 22. BCE 23. ACE 24. BDE 25. AD 26. DE

非選擇題

$$1. \frac{n_{\text{甲}}}{n_{\text{乙}}} = \frac{m/4}{m/20} = \frac{5}{1}, \quad P = \frac{nRT}{V} \quad \frac{P_{\text{甲}}}{P_{\text{乙}}} = \frac{5 \times 300/5}{1 \times 600/2} = \frac{1}{1}$$

$$2. \overline{E_K} = \frac{3}{2}kT, \quad \frac{\overline{E_{\text{甲}}}}{\overline{E_{\text{乙}}}} = \frac{300}{600} = \frac{1}{2}$$

$$3. v_{\text{rms}} = \sqrt{\frac{3RT}{M}}, \quad \frac{v_{\text{甲}}}{v_{\text{乙}}} = \sqrt{\frac{300/4}{600/20}} = \frac{\sqrt{5}}{\sqrt{2}}$$

$$4. E = \frac{3}{2}nRT = \frac{3}{2}PV, \quad \frac{E_{\text{甲}}}{E_{\text{乙}}} = \frac{5 \times 1}{1 \times 2} = \frac{5}{2}$$

5. 絕熱混合總動能守恆

$$n_1 T_1 + n_2 T_2 = (n_1 + n_2)T, \quad 5 \times 300 + 1 \times 600 = (5 + 1) \times T, \quad T = 350 \text{ K}$$