

12 The density of an ideal gas is 1.2 kg m^{-3} at a pressure of $1.0 \times 10^5 \text{ Pa}$.

What is the root-mean-square (r.m.s.) speed of the molecules of the gas?

A 350 m s^{-1}

B 500 m s^{-1}

C 3700 m s^{-1}

D $2.50 \times 10^5 \text{ m s}^{-1}$

13 A fixed mass of an ideal gas undergoes a cycle PQRP of changes, as shown below.