10 A fixed volume container contains a mixture of two monatomic gases X and Y at the same temperature. The mass of the molecules of X is twice that of molecules of Y.

What is the ratio $\dfrac{\text{root mean square speed of molecules of X}}{\text{root mean square speed of molecules of Y}}$?

A   0.50 **B**   0.71 **C**   1.4 **D**   2.0

11 A fixed mass of gas undergoes a change from state X to Y via two different paths as