

12 Container X contains neon and container Y contains argon. The two containers are identical, and the two gases are at the same temperature. The pressure in X is twice that in Y.

What is the ratio of the mean kinetic energy of a neon molecule to the mean kinetic energy of an argon molecule?

[The relative atomic masses of neon and argon are 20 and 40 respectively.]

A 0.5

B 1

C 2

D 4

13 The density of helium at 150 kPa is 0.178 kg m^{-3} . What is the root mean square speed of its