Helium atom is two times heavier than a hydrogen molecule. At 298 K, the average kinetic energy of a helium atom is

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(a) two times that of a hydrogen molecule.
(b) same as that of a hydrogen molecule.
(c) four times that of a hydrogen molecule.
(d) half that of a hydrogen molecule.

Answer:

(b) Average kinetic energy depends only on temperature and does not depend upon the nature of the gas. ($\because$ K.E. $= 3/2$ KT)