

**13** The density of argon gas at a pressure of  $1.00 \times 10^5$  Pa is  $1.60 \text{ kg m}^{-3}$ .

What is the root-mean-square speed of the argon molecules?

- A**  $216 \text{ m s}^{-1}$
- B**  $250 \text{ m s}^{-1}$
- C**  $306 \text{ m s}^{-1}$
- D**  $433 \text{ m s}^{-1}$