

**16** The root-mean-square speed of the molecules of an ideal gas is  $c$ . If the gas is heated at constant volume so that its pressure is increased from  $p$  to  $4p$ , what is the new the root-mean-square speed?

**A**  $\frac{c}{16}$

**B**  $2c$

**C**  $4c$

**D**  $16c$