

- 11** An ideal gas has thermodynamic temperature  $T$ , and its molecules has root-mean-square speed  $c_{rms}$ .

If the gas is heated to temperature  $2T$ , what is the new root-mean-square speed of the molecules?

**A**  $\sqrt{2}c_{rms}$

**B**  $2c_{rms}$

**C**  $2\sqrt{2}c_{rms}$

**D**  $4c_{rms}$