

- 13** A sealed container is filled with an ideal gas which is initially at a temperature of 50 °C. The root-mean-square (r.m.s.) speed of the gas molecules at this temperature is measured to be 400 m s<sup>-1</sup>.

If the temperature of the gas is increased to 100 °C, what is now the r.m.s speed of the gas molecules?

- A** 430 m s<sup>-1</sup>      **B** 460 m s<sup>-1</sup>      **C** 570 m s<sup>-1</sup>      **D** 800 m s<sup>-1</sup>