

## SECTION B

**Answer ALL questions in the spaces provided.**

**11** Air is used to inflate a balloon.

The inflated balloon has a volume of  $1.77 \times 10^{-3} \text{ m}^3$  and contains  $5.15 \times 10^{22}$  air molecules. The air inside the balloon exerts a pressure of  $1.15 \times 10^5 \text{ Pa}$ .

Calculate the average kinetic energy of the air molecules.

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Average kinetic energy of air molecules = .....

**(Total for Question 11 = 3 marks)**

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