

- 2 (a) State what is meant by the *Avogadro constant* N_A .

.....

.....

..... [2]

- (b) A balloon is filled with helium gas at a pressure of 1.1×10^5 Pa and a temperature of 25°C .

The balloon has a volume of $6.5 \times 10^4 \text{ cm}^3$.

Helium may be assumed to be an ideal gas.

Determine the number of gas atoms in the balloon.

number = [4]