18 One mole of an ideal gas at atmospheric pressure 1.0×10^5 Pa and temperature 300 K occupies a volume of $0.025\,m^3$. The pressure and temperature of the gas are raised to 5.0×10^5 Pa and 600 K.

What is the volume that the gas occupies?

A $0.010\,m^3$ **B** $0.025\,m^3$ **C** $0.050\,m^3$ **D** $0.063\,m^3$