12 Two vessels A and B of volume V and $8V$ respectively are connected by a tube of negligible volume and contain an ideal gas at an initial temperature of 10 °C.

Vessel A initially contains n moles of the ideal gas. Its temperature is then raised to 80 °C while the temperature of B is maintained at 10 °C.

How many moles of gas will be transferred between the vessels when steady state is reached?

A 0.18 n **B** 0.21 n **C** 0.82 n **D** 0.86 n