

- 13** 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 $10\text{ }^{\circ}\text{C}$.

Vessel A initially contains n moles of the ideal gas. Its temperature is then raised to $80\text{ }^{\circ}\text{C}$ while the temperature of B is maintained at $10\text{ }^{\circ}\text{C}$.

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 $0.86 n$



[Turn over]

