

1 Which definition is correct and uses only quantities rather than units?

- A** Density is mass per cubic metre.
- B** Potential difference is energy per unit current.
- C** Pressure is force per unit area.
- D** Speed is distance travelled per second.

2 The average kinetic energy E of a gas molecule is given by the equation

$$E = \frac{3}{2} kT$$

where T is the absolute (kelvin) temperature.

What are the SI base units of k ?

- A** $\text{kg}^{-1} \text{m}^{-1} \text{s}^2 \text{K}$
- B** $\text{kg}^{-1} \text{m}^{-2} \text{s}^2 \text{K}$
- C** $\text{kg m s}^{-2} \text{K}^{-1}$
- D** $\text{kg m}^2 \text{s}^{-2} \text{K}^{-1}$