2 The force F between two point charges q_1 and q_2, a distance r apart, is given by the equation

$$F = \frac{kq_1q_2}{r^2}$$

where k is a constant.

What are the SI base units of k?

A $\text{kg} \, \text{m}^3 \text{s}^{-4} \text{A}^2$ **B** $\text{kg} \, \text{m}^3 \text{s}^{-4} \text{A}^{-2}$ **C** $\text{kg} \, \text{m}^3 \text{A}^2$ **D** $\text{kg} \, \text{m}^3 \text{A}^{-2}$