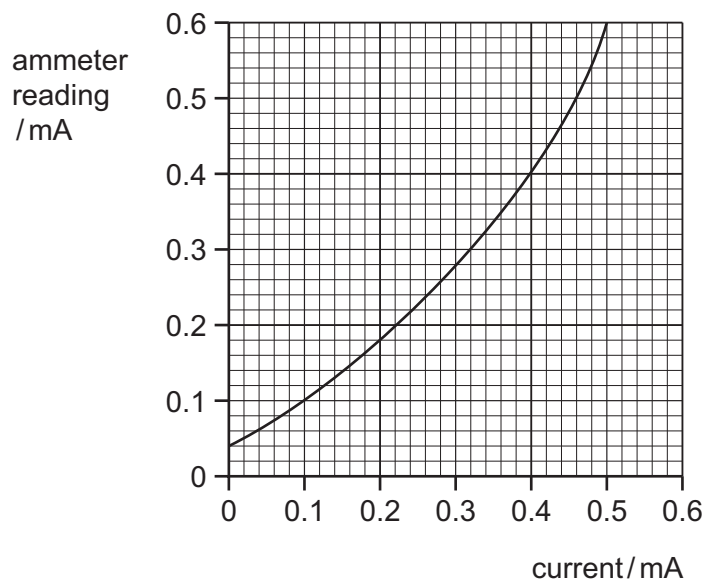


- 1 What is the unit of weight in terms of SI base unit(s)?
- A kg m s^{-1} B kg m s^{-2} C N D J m^{-1}
- 2 At temperatures close to 0 K, the specific heat capacity c of a particular solid is given by $c = bT^3$, where T is the thermodynamic temperature and b is a constant characteristic of the solid. The SI unit of specific heat capacity is $\text{J kg}^{-1} \text{K}^{-1}$.

What is the unit of constant b , expressed in SI base units?

- A $\text{m}^2 \text{s}^{-2} \text{K}^{-3}$
 B $\text{m}^2 \text{s}^{-2} \text{K}^{-4}$
 C $\text{kg m}^2 \text{s}^{-2} \text{K}^{-3}$
 D $\text{kg m}^2 \text{s}^{-2} \text{K}^{-4}$
- 3 In making reasonable estimates of physical quantities, which statement is **not** correct?
- A The frequency of sound can be of the order of GHz.
 B The wavelength of light can be of the order of 600 nm.
 C The Young modulus of a metal can be of the order of 10^{11} Pa .
 D Beta particles are associated with one unit of negative charge.
- 4 A calibration graph is shown for an ammeter whose scale is inaccurate.



Two readings taken on the meter at different times during an experiment are 0.13 mA and 0.47 mA.

By how much did the current really increase between taking the two readings?

- A 0.30 mA B 0.35 mA C 0.40 mA D 0.44 mA