

3 The time T taken for a satellite to orbit the Earth on a circular path is given by the equation

$$T^2 = \frac{kr^3}{M}$$

where r is the radius of the orbit, M is the mass of the Earth and k is a constant.

What are the SI base units of k ?

- A $\text{kg}^{-1} \text{m}^{-3} \text{s}^2$
- B $\text{kg}^{-1} \text{m}^3 \text{s}^2$
- C $\text{kg m}^{-3} \text{s}^2$
- D $\text{kg m}^3 \text{s}^2$

4 Which row gives reasonable estimates for the mass and the speed of an adult running?