

Answer on Question #83227 – Math – Differential Equations

Question

The equation of a simple harmonic motion is given as $d^2x/dt^2 + \omega^2x = 0$. where the symbols have their usual meaning. The dimension of the quantity ω^2 is

- a. L^{-1}
- b. M
- c. T^{-2}
- d. LT^{-2}

Solution

ω is the angular frequency.

ω measured in radians per second.

The dimension of the quantity ω is T^{-1}

So the dimension of the quantity ω^2 is T^{-2}

Answer:

- c. T^{-2}