15.12

fredag 23 december 2022 15:28

$m \cdot v'(t) = -k \cdot v(t) \qquad v(0) = ???$

$v'(t) + \frac{k}{m} \cdot v(t) = 0$

$g(t) = k/m \qquad G(x) = k/m\, t \qquad IF = e^{k/m\, t}$

$v \cdot e^{k/m\, t} = \int 0 \, dt = C$

$v = C \cdot e^{-k/m\, t}$

$v(0) = C \cdot e^{0} = v_0 \qquad C = v_0$

Sv: $v(t) = v_0 e^{-k/m\, t}$