

Units

Quiz: Units

Let $x(t)$ be the temperature of my house in degrees Celsius with t in hours.
Suppose it satisfies the ODE:

$$\frac{dx}{dt} + kx = kT_e(t).$$

1. What are the units on k ?
2. What are the units on T_e ?

Choices:

1. Units on k :

- a) $\frac{\text{degrees}}{\text{hour}}$ b) degrees Celsius c) $\frac{1}{\text{hour}}$ d) k is dimensionless

2. Units on T_e :

- a) $\frac{\text{degrees}}{\text{hour}}$ b) degrees Celsius c) $\frac{1}{\text{hour}}$ d) T_e is dimensionless

Pick what you think is the correct choice and then look at the answer.

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