

Quiz 8

Newton's law of cooling: $\frac{dT}{dt} = k(T - T_s)$

A cheese pie that just came out of the oven has an initial temperature of 40°C ($T(0) = 40$). The temperature of the kitchen is 20°C ($T_s = 20$).

1. Find the temperature of the cheese pie as a function of time ($T(t) = ?$).
2. After 1 hour the temperature of the cheese pie is 30°C . Find the constant k .

Explain your answers.