

Math 2306 Linear Mechanical System

Names: _____

A dying battery imparts a voltage $E(t) = 120e^{-5t}$ to an LRC circuit with inductance 5 henries, resistance 45 ohms, and capacitance 0.01 farads. Determine the charge $q(t)$ on the capacitor if the initial charge $q(0) = 0$ and the initial current $i(0) = 0$.

