In-Class Assignment

PHY 2105 (A)

Assignment 1

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1. Justify that the energy dissipation between L and C in the LC circuit indicates of the circuit being a simple harmonic oscillator.
2. Sketch the graphical shifting of $v = \omega A cos(\omega t + \pi/4)$ and $v = \omega A cos(\omega t + \pi/2)$ in a single frame of reference.
3. A 0.7 kg block on a spring is pulled a maximum distance of 30 cm from its equilibrium position. The subsequent oscillations are measured to have a period of 0.80 s. Measure the position (or positions) is the speed of the block 150 cm/s.