Special Problem II.A-44

An **ideal oscillator** produces an output of the form:

$$v_o(t) = 1.0\ cos\left[2\pi(1000)t\right]$$

This oscillator is now **phase modulated**, such that its output now has the form:

$$v_o(t) = 1.0\ cos\left[2\pi\left(2t^2 + 1000t - 0.2\right)\right]$$

Determine an expression for the **relative phase** and **relative frequency** of this output signal.