

(43)

$$k - m\gamma^2 = 98 - 2 = 96$$

$$b\gamma = 5.1 = 5$$

$$y_p = \frac{F_0}{\sqrt{(k - m\gamma^2)^2 + b^2\gamma^2}} \sin(\gamma t + \theta)$$

$$= \frac{0.3}{\sqrt{96^2 + 5^2}} \sin(t + \theta) \quad \text{where } \tan \theta = \frac{b\gamma}{k - m\gamma^2} = \frac{5}{96}$$

$$y_p = \frac{0.3}{\sqrt{9241}} \sin\left(t + \tan^{-1}\left(\frac{5}{96}\right)\right)$$