

p. 269

$\sum (a) \frac{z}{2}$ $\sum (11-11)$ 에 대입 $\frac{z}{2}$ | $\frac{1}{2} \omega$

$$-M \cdot \omega_f \cdot \sin(\omega_f \cdot t) - N \cdot \omega_f \cdot \cos(\omega_f \cdot t) + 2M [M \cdot \omega_f \cdot \cos(\omega_f \cdot t) - N \cdot \omega_f \cdot \sin(\omega_f \cdot t)] \\ + \omega_f^2 [M \cdot \sin(\omega_f \cdot t) + N \cdot \cos(\omega_f \cdot t)] = \frac{F_{\max} \cdot g}{w} \cdot \cos(\omega_f \cdot t)$$

$$= (-M \cdot \omega_f^2 - 2N \cdot \omega_f \cdot M + M \cdot \omega_m^2) \cdot \sin(\omega_f \cdot t) + (-N \cdot \omega_f^2 + 2M \cdot M \cdot \omega_f + N \cdot \omega_m^2) \cdot \cos(\omega_f \cdot t) = \frac{F_{\max} \cdot g}{w} \cdot \cos(\omega_f \cdot t)$$

p. 290

$$\begin{aligned} -M \cdot \omega_f^2 - 2N \cdot \omega_f \cdot M + M \cdot \omega_m^2 &= (\omega_m^2 - \omega_f^2) \cdot M - 2M \cdot \omega_f \cdot N = 0 \\ -N \cdot \omega_f^2 + 2M \cdot \omega_f \cdot M + N \cdot \omega_m^2 &= 2\omega_f \cdot M \cdot M + (\omega_m^2 - \omega_f^2) \cdot N = \frac{F_{\max} \cdot g}{w} \end{aligned}$$

앞서

$$M = \frac{\frac{F_{\max} \cdot g}{w} \cdot 2M \cdot \omega_f}{(\omega_m^2 - \omega_f^2)^2 + 4m^2 \cdot \omega_f^2} = \frac{F_{\max} \cdot g}{w} \cdot \frac{2m \cdot \omega_f}{(\omega_m^2 - \omega_f^2)^2 + 4m^2 \cdot \omega_f^2}$$

$$N = \frac{\frac{F_{\max} \cdot g}{w} (\omega_m^2 - \omega_f^2)}{(\omega_m^2 - \omega_f^2)^2 + 4m^2 \cdot \omega_f^2} = \frac{F_{\max} \cdot g}{w} \cdot \frac{\omega_m^2 - \omega_f^2}{(\omega_m^2 - \omega_f^2)^2 + 4m^2 \cdot \omega_f^2}$$