



$$\frac{\theta}{V_0} = \frac{K_C \cdot 0.25}{0.5s^2 + (1 + K_w \cdot 0.25)s + 0.25K_C} \Rightarrow$$

$$= \frac{0.5 K_C}{s^2 + 2(1 + K_w \cdot 0.25)s + 0.5K_C}$$

$$2(1 + K_w \cdot 0.25) = 2\omega_n = 10$$

$$0.5K_C = \omega_n^2 = 100$$

$$\Rightarrow \left(1 + \frac{K_w}{4}\right) = 10$$

$$\frac{K_w}{4} = 9 \Rightarrow K_w = 36$$

$$0.5K_C = 100 \Rightarrow K_C = 200$$