

8-2)

$$\omega_o = 1.8 \text{ rad/s} \quad \Delta\theta = (50\text{turns}) \cdot (2\pi \text{ rad/turn}) = 314.2 \text{ rad} \quad \alpha = 0.3 \text{ rad/s}^2$$

a)

$$\Delta\theta = \omega_o t + \frac{1}{2}\alpha t^2$$

$$0.15t^2 + 1.8t - 314.2 = 0$$

$$t = +40.2 \text{ s} \text{ (throw away the negative solution)}$$

b)

$$\omega_f = \omega_o + \alpha t$$

$$\omega_f = 1.8 + 0.3 \cdot 40.2 = 13.9 \text{ rad/s}$$