10. We assume the sense of initial rotation is positive. Then, with $\omega_0 = +120$ rad/s and $\omega = 0$ (since it stops at time t), our angular acceleration ("deceleration") will be negative-valued: $\alpha = -4.0$ rad/s^2.

(a) We apply Eq. 11-12 to obtain t.

$$\omega = \omega_0 + \alpha t \quad \Longrightarrow \quad t = \frac{0 - 120}{-4.0} = 30 \text{ s} .$$

(b) And Eq. 11-15 gives

$$\theta = \frac{1}{2}(\omega_0 + \omega)\, t = \frac{1}{2}(120 + 0)(30)$$

which yields $\theta = 1800$ rad. Alternatively, Eq. 11-14 could be used if it is desired to only use the given information (as opposed to using the result from part (a)) in obtaining θ. If using the result of part (a) is acceptable, then any angular equation in Table 11-1 (except Eq. 11-12) can be used to find θ.