Ex 9.2 p293

a/ $\alpha_{av} = \frac{\Delta\omega}{\Delta t} = \frac{\omega_2 - \omega_1}{t_2 - t_1} = \frac{(150 - 24)\ rad\,s^{-1}}{(5.0 - 2.0)\ s}$

$\alpha_{av} = 42\ rad\,s^{-2}$

b/ $\alpha = \frac{d\omega}{dt} = \frac{d}{dt}\left[(6.0\ rad\,s^{-3})\,t^2\right]$

$\alpha = (12.0\ rad\,s^{-3})\,t$

at $t_1 = 2.0\,s$ $\quad \alpha_1 = (12.0\ rad\,s^{-3})\,t_1$

$= (12.0\ rad\,s^{-3})(2.0\,s)$

$\alpha_1 = 24.0\ rad\,s^{-2}$

at $t_2 = 5.0\,s$ $\quad \alpha_2 = (12.0\ rad\,s^{-3})\,t$

$= (12.0\ rad\,s^{-3})(5.0\,s)$

$\alpha_2 = 60\ rad\,s^{-2}$