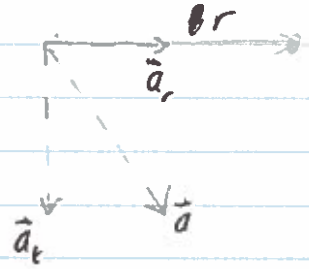
Ex 9.4
p287

$r = 0.800\ m$
$\omega = 10.0\ rad\,s^{-1}$
$\alpha = 50.0\ rad\,s^{-2}$



$$a_r = \omega^2 r = (10.0\ rad\,s^{-1})^2 (0.800\ m) = 80.0\ m\,s^{-2}$$

$$a_t = r\alpha = (0.800\ m)(50.0\ rad\,s^{-2}) = 40.0\ m\,s^{-2}$$

$$|\vec{a}| = \sqrt{a_r^2 + a_t^2} = \sqrt{(80.0\ m\,s^{-2})^2 + (40.0\ m\,s^{-2})^2}$$

$$|\vec{a}| = 89.4\ m\,s^{-2}$$