

3-10. Motor A has a normally distributed initial angular velocity $\omega_0 \sim N(1, 0.1^2)$ rad/s. Then it accelerates with $\alpha_A = (0.3t^2 + 0.4)$ rad/s², where t is in seconds. If $r = 0.6$ m, what the probability that the velocity of block B is less than 3 m/s when $t = 3$ s.

Solution: $\Pr\{v_B < 3\} = 0.84$.

