

9. ● An airplane propeller is rotating at 1900 rpm. (a) Compute the propeller's angular velocity in rad/s. (b) How many seconds does it take for the propeller to turn through 35° ? (c) If the propeller were turning at 18 rad/s, at how many rpm would it be turning? (d) What is the period (in seconds) of this propeller?
14. ● A circular saw blade 0.200 m in diameter starts from rest. In 6.00 s, it reaches an angular velocity of 140 rad/s with constant angular acceleration. Find the angular acceleration and the angle through which the blade has turned in this time.
18. ●● A flywheel having constant angular acceleration requires 4.00 s to rotate through 162 rad. Its angular velocity at the end of this time is 108 rad/s. Find (a) the angular velocity at the beginning of the 4.00 s interval; (b) the angular acceleration of the flywheel.
23. ● A wheel rotates with a constant angular velocity of 6.00 rad/s. (a) Compute the radial acceleration of a point 0.500 m from the axis, using the relation $a_{\text{rad}} = \omega^2 r$. (b) Find the tangential speed of the point, and compute its radial acceleration from the relation $a_{\text{rad}} = v^2/r$.