NAME:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DATE:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The wheel of radius r=.30 m spins at the rate of 900 rpm.
	1. What is the angular velocity of all points on the wheel?
	2. If the wheel slows uniformly to 60 rpm in 15 s, what angular acceleration does the wheel experience?
2. A small pully attached to the shaft of an electric motor has a radius of r=0.05 m and is turning with angular velocity of 5 rad/s and speed up to angular velocity of 8 rad/s in 2.5s.
	1. What acceleration does the pulley experience?
	2. What is the angular displacement during this time period?
	3. How many revolutions is this?
3. Compute the average angular acceleration and the angular displacement during the 2 seconds a rotating object speeds up from 0.5 rad/s to 0.7 rad/s.
4. A propeller, initially at rest, rotates about its midpoint with an angular acceleration of 12 rad/s2. How much time will it take to rotate through a 90-degree angle?
5. A car tire is initially spinning with an angular speed of 150 rad/s. As the brakes are applied, the tire slows down at a rate of 25 rad/s2. How much time does it take the car to stop?