

Angular Velocity Practice

1. A motor runs at 1200 rpm. What is the angular speed of the motor?
2. A wheel is observed to rotate 5 complete revolutions in 25 seconds. What is its angular speed?
3. What is the angular speed of the minute hand of any clock?
4. What is the tangential velocity of a point at the equator of the earth? (radius of earth = 6.37×10^6 meters)
5. An automobile wheel rotates at 500 rpm. If the wheel has a diameter of 1 meter, what is the velocity of the automobile?
If the wheel is underinflated, its radius is only 0.9 meters. What velocity will the car have?
6. In order to travel at 20 m/s (about 50 mph) what angular speed must your tires have if your tires have a 0.8 m radius?