

PHYSICS 160 READING ASSIGNMENT FOR APRIL 5 SECTIONS 9.1-9.3

Please notice that this file is two pages long.

9.1 - Angular Velocity and Acceleration

- Angle is the key quantity in rotation since a rotating object has a single value of angular velocity and acceleration.
- Angular Velocity, ω - the rate at which the angle is changing. Unit: *rad/s* though *RPM* (Revolutions per minute) is also very popular.
- The angular velocity vector points along the axis of rotation.
- We quickly remember the direction for the angular velocity using a memory device called the right-hand rule.
- Angular Acceleration, α - the rate at which the angular velocity is changing.
- Angular acceleration is also a vector. We'll only consider the case where speeds are increasing or decreasing, so angular acceleration will either be in the same direction or opposite to the angular velocity vector.

9.2 - Rotation with Constant Angular Acceleration

- When the angular acceleration is constant, we get equations analogous to the ones in chapter two.

9.3 - Relating Linear and Angular Quantities

- It is when relating linear and angular quantities where radians *must* be used.