

## 4-Minute Drill

### Chapter 9-10

Distance a point on a body moves as the body rotates through an angle  $\theta$

Velocity of a point on a body as the body rotates with angular speed  $\omega$

Acceleration of a point on a body as the body's rotation rate increases

Angular velocity in terms of  $\theta$

Angular acceleration in terms of  $\omega$

One of the rotational kinematic equations ( $\Delta\theta =$ )

Another rotational kinematic equation ( $\omega =$ )

One more rotational kinematic equation ( $\omega^2 =$ )

Rotational kinetic energy formula

Total kinetic energy of a rolling body

Rotational inertia of discrete particle of mass  $m$  at a distance  $r$  from the axis

Rotational inertia of a cylinder with the axis through the center of the flat face

Rotational inertia of a solid sphere with the axis through the center

Torque in terms of force applied at a given distance from the rotational axis

Torque (Newton's 2<sup>nd</sup> Law for rotation)

Angular momentum

Another expression for angular momentum

Conservation of angular momentum

**4-Minute Drill Take Two**  
**Chapter 9-10**

Rotational kinetic energy

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One of the rotational kinematic equations

Another rotational kinematic equation

One more rotational kinematic equation