*Provided Formulas (Except box)

$\tau = Fr$, $\tau = Fr\sin\theta$

In equilibrium, $\tau_{Net} = 0 \Rightarrow \tau_{ccw} = \tau_{cw}$

$$\omega = \frac{\Delta\theta}{\Delta t} \qquad \alpha = \frac{\Delta\omega}{\Delta t}$$

$\Delta\theta = \omega t$

$\omega = \omega_0 + \alpha t$

$\Delta\theta = \omega_0 t + \frac{1}{2}\alpha t^2$

$\omega^2 = \omega_0^2 + 2\alpha(\Delta\theta)$

$\tau = I\alpha$

$I_{point\ mass} = mr^2$

$I_{Disc} = \frac{1}{2}mr^2$

↑ will be provided for other shapes

$KE_{rot} = \frac{1}{2}I\omega^2$

$KE_{Trans} = \frac{1}{2}mv^2$

$PE_{grav} = mgh$

$W_{Nc} + PE_0 + KE_0 = PE_F + KE_F$

$L = I\omega$

$L = I\omega$

$L_0 = L_F$

$I_0\omega_0 = I_F\omega_F$

*Things to memorize

linear	rot.
Δx	θr
v	ωr
a	αr

$\Delta\theta = \theta_F - \theta_i$

Units

τ	N·m
θ	rad
ω	rad/s
α	rad/s²
I	kg·m²
L	kg·m²/s
KE	J
PE	J
W	J