SiQuENC: Torques and forces

Neatly and graphically represent situation(s)

Carefully read the problem three times.
Draw object(s) and relevant aspects of environment.
Identify requested unknowns.

Graphically represent quantities and their relationships

Free-body diagram of extended mass

B – Use dashed **b**ubble to indicate object(s) in system.
Draw tail of each force vector at point of application.
E – Is the **E**arth nearby (right now)?
T – Is anything **t**ouching the system (right now)?
A – Draw **a**xes (indicate

- $+x$ and $+y$ directions.
- Axis of rotation (A.O.R.).
- Direction of positive angular advance about A.O.R.)

Identify relevant allowed starting point (in)equation(s)
including Newton's laws (stated at bottom row)

	Force	F_x	F_y	$\tau_{\mathrm{F}} := \pm r_{\perp} F$ $:= \pm (r \sin\theta) F$
1				
2				
3				
4				
5				
6				
7	Σ	ma_x (is $a_x = 0$?)	ma_y (is $a_y = 0$?)	$I\alpha$ (is $\alpha = 0$?)

Use numbered steps to show REASoNing

Communicate