

# SiQuENC: Torques and forces

## Neatly and graphically represent situation(s)

Carefully read the problem three times.  
 Draw system and relevant aspects of environment.  
 Use dashed bubble to indicate object(s) in system.  
 Identify requested unknowns.

## Graphically represent quantities and their relationships

### Free-body diagram of extended mass

Draw tail of each force vector at point of application.  
 Indicate  $+x$  and  $+y$  directions.  
 Indicate axis of rotation (A.O.R.).  
 Indicate 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	$F_x$	$F_y$	$\tau_F := \pm r_{\perp} F$ $:= \pm (r \sin \theta) F$
1				
2				
3				
4				
5				
6				
7	$\Sigma$	$ma_x$ (is $a_x = 0$ ?)	$ma_y$ (is $a_y = 0$ ?)	$I\alpha$ (is $\alpha = 0$ ?)

## Use numbered steps to show REASoNing

## Communicate