Rolling...

- Static friction f causes rolling. It is an unknown, so we must solve for it.
- First consider the free body diagram of the object and use $\Sigma F_{NET} = Ma_{cm}$:

  In the x direction $\quad Mg \sin\theta - f = Ma_{cm}$

- Now consider rotation about the CM and use $\Sigma\tau = I\alpha$ realizing that

  $\tau = Rf$ and $a = \alpha R$

$$Rf = I\frac{a}{R} \quad \Rightarrow \quad f = I\frac{a}{R^2}$$