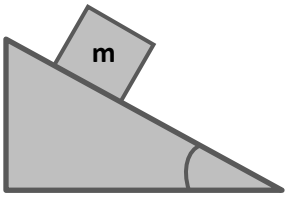
HOW TO SOLVE: TORQUE VS. CONSERVATION OF ENERGY

● Remember: Some Linear motion problems can be solved with **ΣF=ma** and Motion Equations OR Conservation of Energy:

- For example, there are two ways to find the velocity of the block at the bottom of the plane:



- Likewise, some Rotational motion problems can be solved with **$\Sigma\tau = I\alpha$** and/or Motion or Conservation of Energy.

- Depending on what you're being asked and what you're being given, one method is "better" than the other:

  - Generally, you will use **$\Sigma\tau = I\alpha$** to solve problems asking for (or giving) _____ or _____.

  - Use Conservation of Energy to solve problems asking for (or giving) _____ or _____.

  - ALWAYS use Motion Equations if looking for _____ (_____) or need it to solve a problem.

  - Sometimes you may be asked to use a specific method, in which case you have no choice :(

● Two questions may look almost identical, but require very different methods to solve. For example:

- A yo-yo spins around itself as it falls. Find its acceleration after dropping 2 m → _____
- A yo-yo spins around itself as it falls. Calculate its speed after dropping 2 m → _____
- A yo-yo spins around itself as it falls. How long does it take to drop 2 m? → _____