

- 1) A block of mass  $m$  slides without friction on an inclined plane of height  $h$  and angle  $\theta$ . Using Newton's  $F=ma$  with forces, compute the velocity of the block at the bottom of the incline.
- 2) Repeat the above problem, but use energy conservation to determine the velocity of the block at the bottom of the incline.
- 3) Repeat the above problem, but use the Lagrange equation to determine the velocity of the block at the bottom of the incline.