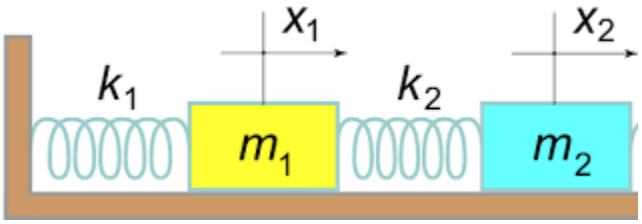
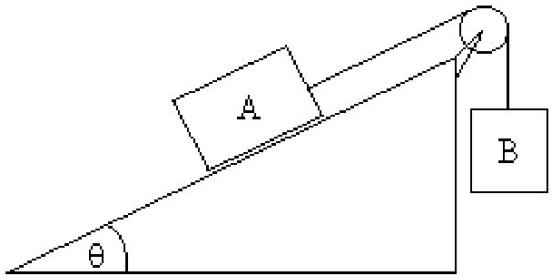
# MM2 – Chapter 9 – Section 6

## Class Worksheet

1. Use the Hamiltonian to find x(t) for a 1D Harmonic Oscillator
2. A particle of mass m is attracted toward a point given by the $1/r^2$ in 2D polar cords. Find the equations of motion.
3. Find an equation of motion of the following system




4. Find the equations of motion using the Hamiltonian and Lagrangian. Ignore friction and the mass of the pulley




5. Find the equations of motion of a cylinder rolling down an inclined plane.

