

Part 3 – Essay (1 problem worth 20 points) → Grade: _____ out of 20 pts

1) Write a problem in which the method of Lagrangian multipliers is useful. Solve it using this technique.

2) In using the Hamiltonian we assume that the generalized coordinate and the generalized momentum are independent. Does this seem reasonable? Do we have to worry about the same problem when using the Lagrangian?

3) Why is the Hamiltonian formulation useful? List three reasons or examples in which the Hamiltonian formulism might be beneficial.

Total Grade: _____ out of 150 pts. → Grade = _____