All problems are from Taylor, *Classical Mechanics*.

1) Problem 4.2  Work on three different paths
2) Problem 4.7  Unusual gravitational potential energy
3) Problem 4.16  Force from potential
4) Problem 4.21  Curl of the gravitational force
5) Problem 4.23  Conservative forces
6) Problem 4.26  Time-dependent gravity
7) Problem 4.28  Motion in one dimension
8) Problem 4.34  The pendulum
9) Problem 4.41  The Virial theorem
10) Problem 4.48  Collision and loss of kinetic energy
11) Problem 4.53  Electron collides with a hydrogen atom  (NOTE: assume that the collision is **elastic** in part c)

Extra Credit

1) Problem 4.38  Pendulum period for large oscillations