

- 
- 1) Curtis (1.6): An 80 kg man and a 50 kg woman stand 0.5 m from each other. What is the force of gravitational attraction between the couple? {Ans.:  $36.04 \mu\text{N}$ }
- 

- 2) Curtis (1.8): If a person's weight is  $W$  on the surface of the earth, calculate what it would be, in terms of  $W$ , at the surface of
- a) The moon;
  - b) Mars;
  - c) Jupiter.
- {Partial Ans.: c)  $2.53W$ }
- 

- 3) Prove that equations (3.3) and (3.4) given in the class notes are equivalent to (3.2).
- 

- 4) Prove that the force function  $U$  given by equation (3.4) in the class notes is equal to the total work done by the gravitational forces in assembling a system of  $N$  point masses from a state of infinite dispersion to a given configuration.
- 

- 5) Prove equation (4.7) given in the class notes.
-