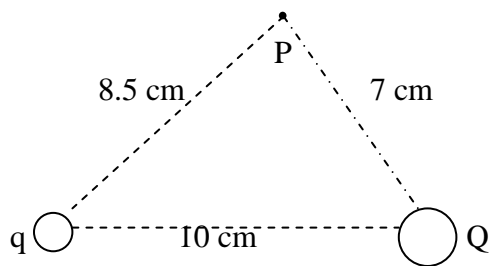


**Chapter 25 Examples, Electric Potential**

- 1) (a) Calculate the electric potential at position P in the diagram shown below. Let  $q = 5\mu\text{C}$  and  $Q = -8\mu\text{C}$ .
- (b) Calculate the electric potential energy (i) at the point P.  
(ii) of the system of both charges.
- (c) How much work must be done by  
(i) the electric field  
(ii) an external force  
to move  $q$  along a circular path of radius 10 cm around Q?
- (d) How much work must be done by  
(i) the electric field  
(ii) an external force  
to move  $q$  so that it is 6 cm from Q?
- (e) Calculate the electric potential at P if a charge  $q' = 2\mu\text{C}$  is placed at P.
- (f) Calculate the electric potential energy of the system of three charges described in part e.



***Chapter 25 Examples, Electric Potential***

- 2) Calculate the electric potential in two regions for a uniformly charged thin spherical shell with total charge  $Q$  and radius  $R$ : (a) outside the shell and (b) inside the shell.

