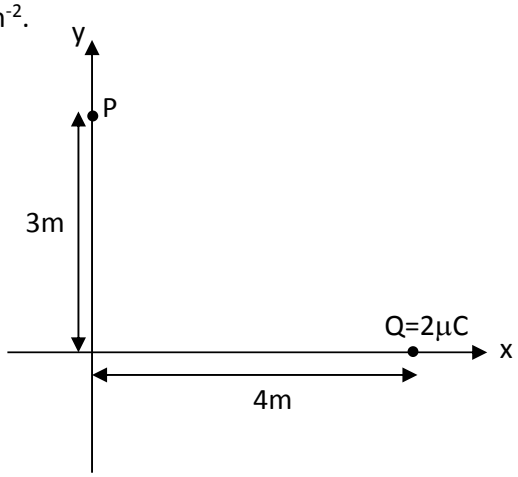
Name: _____ Sec: _____

PHY 232 Fall 2017 Supplementary Work (will not be collected)

Class 5. Electric field

Given $\varepsilon_0 = 8.8542\times10^{-12}\ C^2N^{-1}m^{-2}$.



(a) Calculate the magnitude of the electric field at point P due to the 2μC charge.

(b) In the figure above, sketch the vector of the electric field at point P.

(c) Calculate the x- and y- components of the electric field at point P.

(d) If a charge of q= 5μC is placed at point P, calculate the x- and y- components of the electric force acting on q.

(e) If a charge of q= 10μC is placed at point P, calculate the x- and y- components of the electric force acting on q.