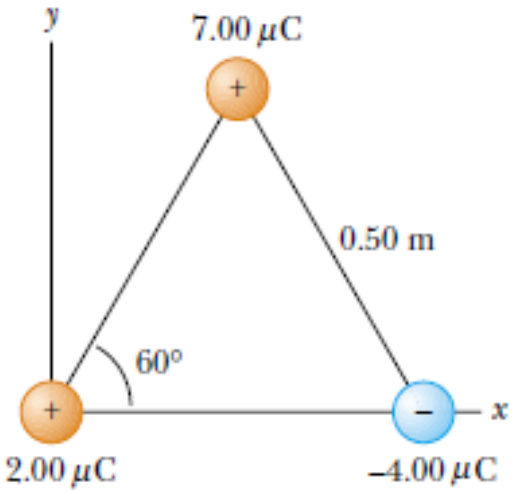
Exercises on chapter 2 : Electric Field

Exercise 1:

Two protons in an atomic nucleus are typically separated by a distance of 2×10^{15} m. The electric repulsion force between the protons is huge, but the attractive nuclear force is even stronger and keeps the nucleus from bursting apart. What is the magnitude of the electric force between two protons separated by 2.00×10^{15} m?

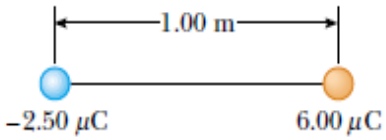
Exercise 2:

Three point charges are located at the corners of an equilateral triangle as shown in Figure. Calculate the resultant electric force on the 7.00 µC charge.



Exercise 3:

In the Figure below, determine the point (other than infinity) at which the electric field is zero.



Exercise 4:

Three point charges are arranged as shown in the Figure below. (a) Find the vector electric field that the 6 nC and -3 nC charges together create at the origin. (b) Find the vector force on the 5 nC charge.