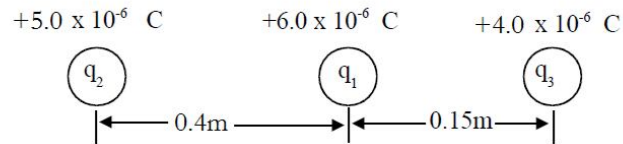


Multiple Charges Extra Practice

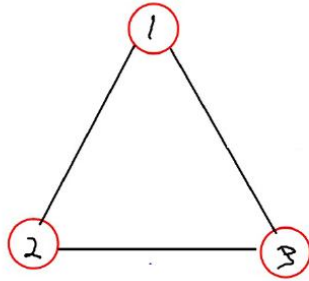
COMPLETE THE FOLLOWING PROBLEMS ON A SEPARATE SHEET OF PAPER.

1. The figure below shows three point charges that lie along the x axis. Determine the magnitude and direction of the net electrostatic force on a) charge 1 and b) charge 3

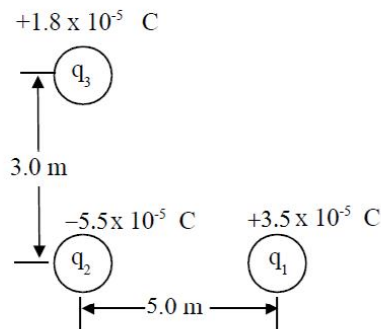


- c) If charge 2 in the above diagram was removed and replaced with a point P, what would the total (net) electric field at point P be? (Include both the magnitude and direction.)

2. In the below situation, each of the three charges is $4\mu\text{C}$ and the charges are all 0.1 meters apart in each other. Calculate the net force on charge 1.



3. Three charges are placed as shown below. Determine the net electrostatic force on charge 3 (include both the magnitude and direction).



4. Calculate the net electric FIELD at a point P shown below:

