

Chapter 15 Problem Set
Advanced Physics

Name _____

1. A glass object is charged to $+3\text{nC}$ by rubbing it with silk. Explain how this happened.
2. A 27.0g ball of Aluminum that was electrically neutral is given a charge of $+1.6\text{microcoulombs}$. How many electrons were removed? What fraction of the original electrons is this?
3. Two identical metal spheres are placed with their centers $.30\text{m}$ apart. One has a charge of 12nC and the other -18nC . a.) Find the force between the two. b.) If the spheres are touched together and then placed at back at the original distance what is the force?
4. Two identical $.200\text{g}$ metal spheres are suspended from the same point on the ceiling with 30.00cm thread. The spheres are charged and then touched together. This causes the angle between them to be 10.00° . What is the magnitude of the charge of each?
5. Three charges are arranged along the x and y axes as such; at $0\text{m},0\text{m}$ a 5.00nC , at $.300\text{m},0\text{m}$ a 6.00nC and at $0\text{m},-.100\text{m}$ a -3.00nC . Find the force on the charge at the origin.

