Coulombs law

1. A charge of $+10\,\mu C$ and a charge of $-10\,\mu C$ are located at a distance 20 m from each other. The force between them is

2. A particle whose mass is 30.0 grams and whose charge is 5 nC is released from rest when it is 20 cm from a second particle of charge 10 C. Find the magnitude of the first particles initial acceleration

3. Imagine two students 10m away from each other, each losing 0.01% of his electrons.

   (a) estimate the charge on each student

   (b) find the repulsion force

   (c) compare it with the weight of Mt. Everest

4. A positive charge q=2 nC is placed at the origin. A positive charge of the same magnitude is placed a = 1 cm from the origin on the x-axis, and a third identical but negative charge is placed a = 1 cm below the origin on the negative y-axis. Draw a clear diagram. The magnitude and direction of the net force on the charge at the origin is: