Force between a proton and an electron

1. The proton and the electron are separated by $r=0.530 \times 10^{-10}$ m in the Hydrogen atom in its lowest energy state. Calculate the electrostatic force between the two particles. Calculate the acceleration on the electron ($m_e = 9.11 \times 10^{-31}$ kg).

Force between particles of unknown charge

2. Two charges are separated by 5 mm. If the charge on one particle is 3 times the charge on the other, and the force between them is 1.08×10^{-3} N, what are the charges of the two particles?

2D Electrostatic force

3. Three charges are arranged in a right triangle as shown to the right. q_1 has charge 5×10^{-6} C, q_2 has charge -7×10^{-6} C, and q_3 has charge 10×10^{-6} C. Calculate the net force (magnitude and direction) on q_3.