Electrostatics

Honors Physics 2017/18

Name _____

$$F = \frac{Kq_1q_2}{d^2} \quad K = 9.0 \times 10^9 \frac{Nm^2}{C^2} \qquad 1 \ \text{y C} = 10^{-6} \ \text{C}$$

Coulomb's Law Problem Set 2

 A sphere carrying a charge of + 2.5 ų C is placed 0.25m from a sphere carrying a charge of - 0.50 ųC. What is the force between the two spheres? (0.18 N)

2. Two equally charged spheres that exert a force on each other of 0.900 N when separated by a distance of 0.65m. What is the magnitude of the two charges? (6.5 ų C)

3. A charge of 8.0 x 10⁻⁶ C is attracted by a second charge with a 0.350 N force when the separation between them is 0.15m. Calculate the magnitude of the second charge *(0.11 y C)*

4. What is the distance between two spheres, one with a charge of 3.5×10^{-6} C and the other with a charge of 5.5×10^{-6} C, when the force between them is 0.025 N? (2.6 m)