$$
F=\frac{K q_{1} q_{2}}{d^{2}} \quad K=9.0 \times 10^{9} \frac{\mathrm{Nm}^{2}}{C^{2}} \quad 1 \text { ч } C=10^{-6} C
$$

## Coulomb's Law Problem Set 2

1. A sphere carrying a charge of $+2.5 \mathrm{u} C$ is placed 0.25 m 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 0.65 m . What is the magnitude of the two charges? $(6.5 \mathrm{y} \mathrm{C})$
3. A charge of $8.0 \times 10^{-6} \mathrm{C}$ is attracted by a second charge with a 0.350 N force when the separation between them is 0.15 m . Calculate the magnitude of the second charge ( 0.11 u C )
4. What is the distance between two spheres, one with a charge of $3.5 \times 10^{-6} \mathrm{C}$ and the other with a charge of $5.5 \times 10^{-6} \mathrm{C}$, when the force between them is 0.025 N ? ( 2.6 m )
