

2. We use Coulomb's Law to determine the force.

$$F = k q_1 q_2 / r^2$$

$$F = (9 \times 10^9 \text{ N m}^2 / \text{C}^2) (5.0 \times 10^{-6} \text{ C})(6.0 \times 10^{-6} \text{ C}) / (0.03 \text{ m})^2$$

$$F = (270 \times 10^{-3}) / 0.0009 \quad \text{N}$$

$$F = 300 \text{ N}$$

The charges both have the same sign, so the charges repel each other with a force of 300 N directed along the line joining their centers.