

1. Eq. 22-1 gives Coulomb's Law, $F = k \frac{|q_1||q_2|}{r^2}$, which we solve for the distance:

$$\begin{aligned} r &= \sqrt{\frac{k|q_1||q_2|}{F}} \\ &= \sqrt{\frac{(8.99 \times 10^9 \text{ N}\cdot\text{m}^2/\text{C}^2) (26.0 \times 10^{-6} \text{ C}) (47.0 \times 10^{-6} \text{ C})}{5.70 \text{ N}}} = 1.39 \text{ m} . \end{aligned}$$