

4. We find the charge magnitude $|q|$ from $E = |q|/4\pi\epsilon_0 r^2$:

$$q = 4\pi\epsilon_0 E r^2 = \frac{(1.00 \text{ N/C})(1.00 \text{ m})^2}{8.99 \times 10^9 \frac{\text{N}\cdot\text{m}^2}{\text{C}^2}} = 1.11 \times 10^{-10} \text{ C} .$$