

5. We use Gauss' law: $\varepsilon_0 \Phi = q$, where Φ is the total flux through the cube surface and q is the net charge inside the cube. Thus,

$$\Phi = \frac{q}{\varepsilon_0} = \frac{1.8 \times 10^{-6} \text{ C}}{8.85 \times 10^{-12} \text{ C}^2/\text{N}\cdot\text{m}^2} = 2.0 \times 10^5 \text{ N}\cdot\text{m}^2/\text{C} .$$