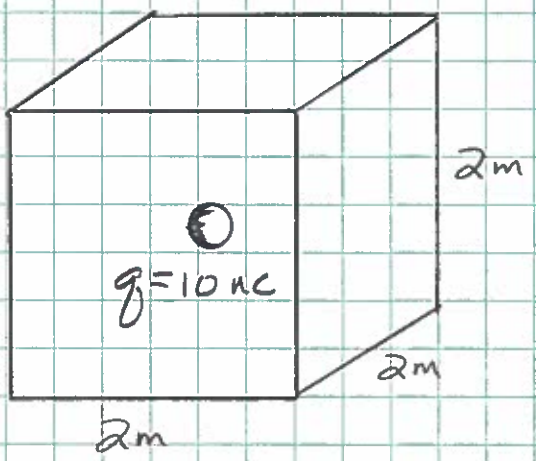

Total flux through cube from Gauss' Law:

$$\Phi_E = \oint \vec{E} \cdot d\vec{A} = \frac{Q_{in}}{\varepsilon_0} = \frac{q}{\varepsilon_0}$$

Now, by symmetry, the flux through one face of the cube is $\frac{1}{6}$ the total.

$$\therefore \quad \Phi_{TOP} = \frac{\Phi_E}{6} = \frac{q}{6\varepsilon_0} = 188.3 \ \frac{Nm^2}{C}$$