What is the total charge for this distribution?

$$\rho(\mathbf{r}) = \sum_{k=0}^{2}(1 + k)\, q\, \delta^3(\mathbf{r} - k\mathbf{a})$$

A. q
B. 2 q
C. 4 q
D. 6 q
E. Something else

ANNOUNCEMENTS

- As requested, Homework 2 grading rubric posted
- Exam 1 is coming up! October 4th (More details next week!)

A Gaussian surface which is *not* a sphere has a single charge (q) inside it, *not* at the center. There are more charges outside. What can we say about total electric flux through this surface $\oint_S \mathbf{E} \cdot d\mathbf{A}$?

A. It is q/ε_0.
B. We know what it is, but it is NOT q/ε_0.
C. Need more info/details to figure it out.

An electric dipole ($+q$ and $-q$, small distance d apart) sits centered in a Gaussian sphere.

What can you say about the flux of $\mathbf{E}$ through the sphere, and $|\mathbf{E}|$ on the sphere?

q   -q
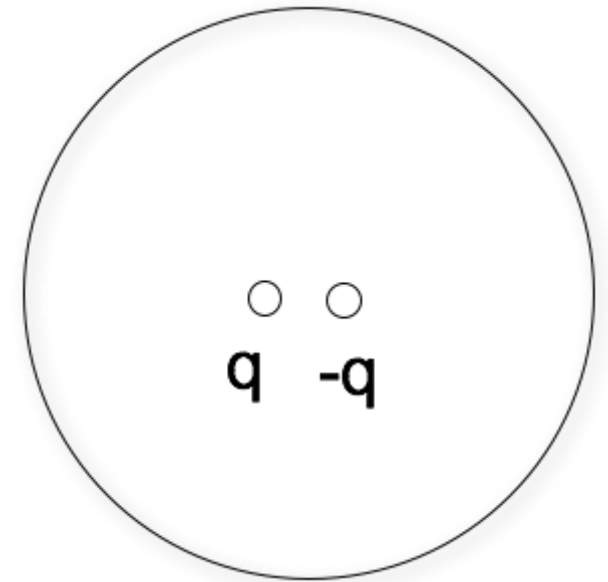
A. Flux = 0, E = 0 everywhere on sphere surface
B. Flux = 0, E need not be zero *everywhere* on sphere
C. Flux is not zero, E = 0 everywhere on sphere
D. Flux is not zero, E need not be zero...