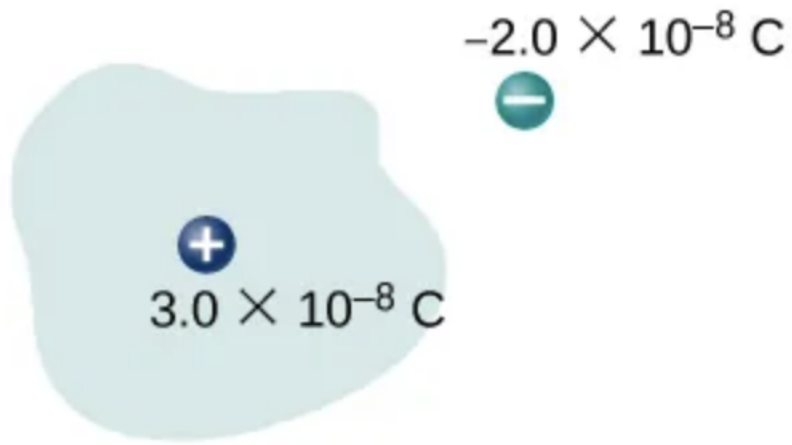
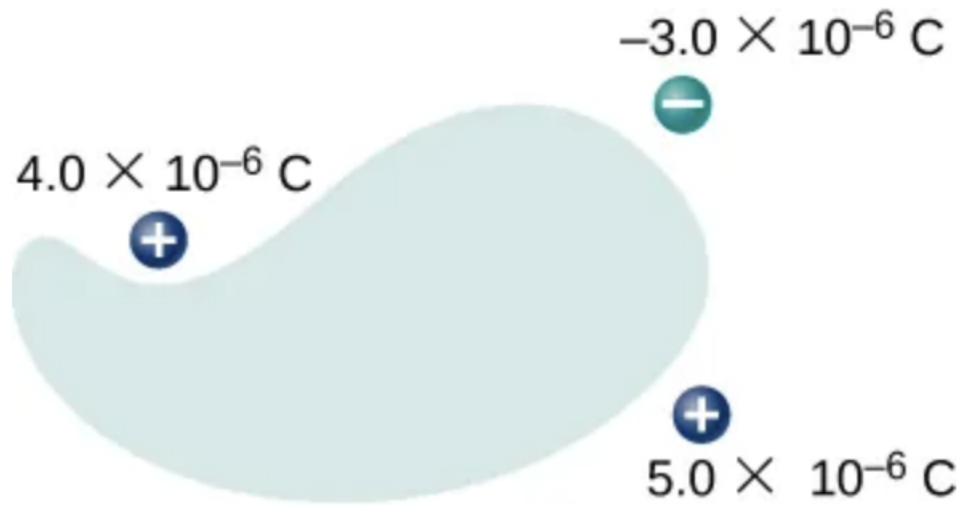


21. Calculate the flux through the sheet of the previous problem if the plane of the sheet is at an angle of 60° to the field. Find the flux for both directions of the unit normal to the sheet.

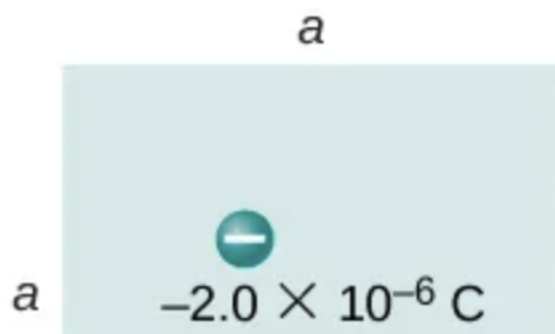
31. Find the electric flux through the closed surface whose cross-sections are shown below.

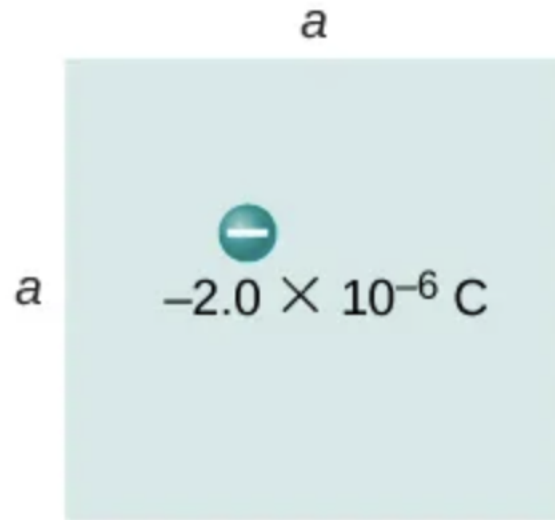


(a)

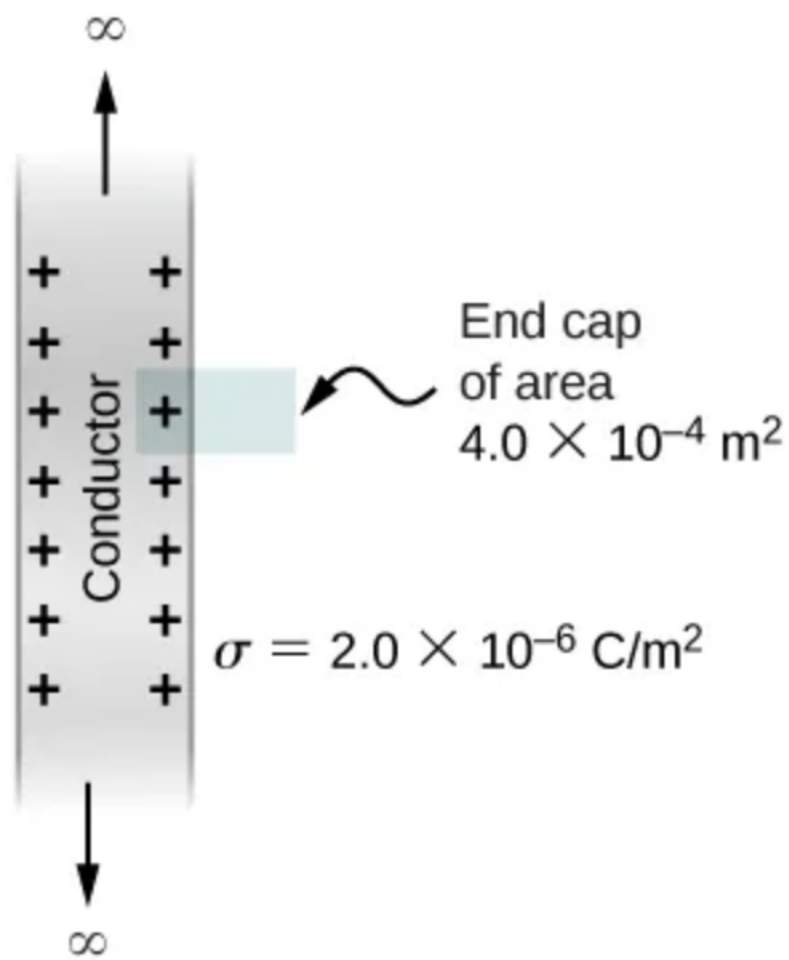


(b)





(c)



(d)

6.3 Applying Gauss's Law

41. Recall that in the example of a uniform charged sphere, $\rho_0 = Q / (\frac{4}{3}\pi R^3)$. Rewrite the answers in terms of the total charge Q on the sphere.

61. An uncharged spherical conductor S of radius R has two spherical cavities A and B of radii a and b , respectively as shown below. Two point charges $+q_a$ and $+q_b$ are placed at the center of the two cavities by using non-conducting supports. In addition, a point charge $+q_0$ is placed outside at a distance r from the center of the sphere. (a) Draw approximate charge distributions in the metal although metal sphere has no net charge. (b) Draw electric field lines. Draw enough lines to represent all distinctly different places.

