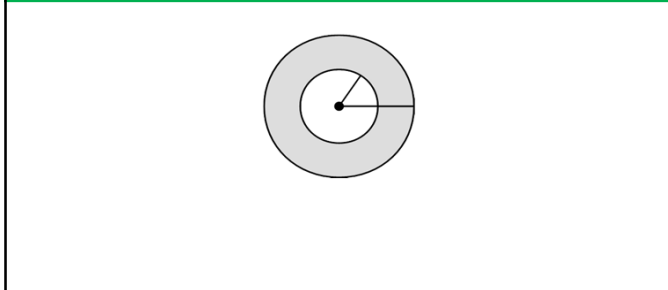


Conductors in Electric Fields

For a conductor in electrostatic equilibrium:

- In an electric field, a surface charge distribution will have formed, creating zero electric field in the conductor.
- Excess charge will be on the surface.

Example: A neutral conducting spherical shell is concentric with a point charge, Q . Determine the electric field and any induced surface charges. The spherical shell has internal radius, a , and external radius, b .



Example: A conducting cylindrical shell contains a total charge per length, 3λ . The shell is concentric with a line of charge per length, $-\lambda$. Determine the electric field and any induced surface charges. The cylindrical shell has internal radius, a , and external radius, b .

