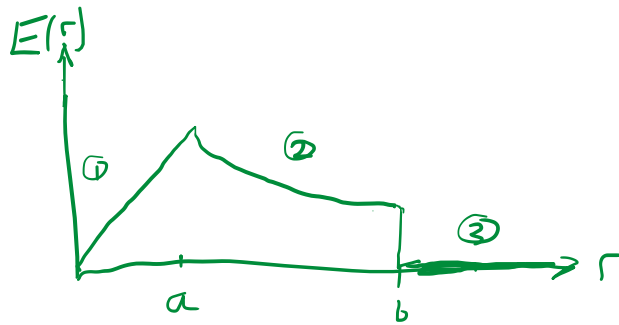
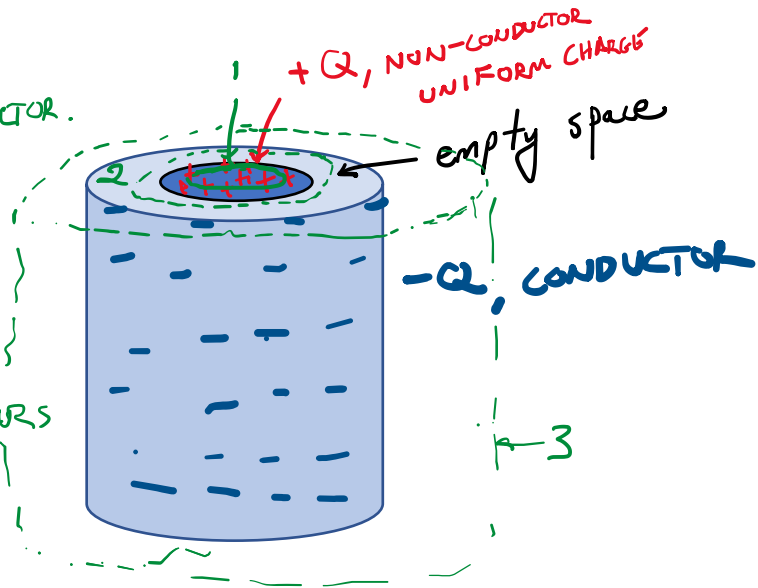


Graphing Electric Fields Using Gauss

Graph the electric field resulting from the following set of infinite coaxial cylinders (where the inner cylinder has a radius "a", and the outer cylinder has a radius "b").

- INSIDE THE INNER CYLINDER, WE HAVE A UNIFORM NON-CONDUCTOR. SO, $E \propto r$. (1)
- IN THE MIDDLE, WE ARE "SHIELDED" FROM THE CONDUCTOR. SO, THE INNER CYLINDER APPEARS LIKE A LINE, OR $E \propto \frac{1}{r}$. (2)
- FINALLY, PASSING THROUGH THE CONDUCTING SHELL, WE NOW HAVE ZERO NET ENCLOSED CHARGE, OR $E = 0$. (3)



Graph qualitatively the electric field of the following charge distributions...

- 1 • A uniformly charged, non-conducting sphere of positive charge.
- 2 • A conducting sphere of negative charge.
- 3 • Two concentric conducting shells, an inner one with $-Q$ and a positive shell of $+Q$.

