

# Things to notice about Gauss Law

$$\int \vec{E} \cdot d\vec{A} = \frac{Q_{enclosed}}{\epsilon_0}$$

In cases of high symmetry it may be possible to bring  $E$  outside the integral. In these cases we can solve Gauss Law for  $E$

$$E \int dA = \frac{Q_{enclosed}}{\epsilon_0}$$

$$E = \frac{Q_{enclosed}}{A\epsilon_0}$$

So - if we can figure out  $Q_{enclosed}$  and the area of the surface  $A$ , then we know  $E$ !

This is the topic of the next lecture.