USING GAUSS'S LAW IN 302L

Choose a Gaussian surface that has the same symmetry as the charge distribution, so that

(1) the electric field **E** is everywhere either precisely perpendicular to the surface, or precisely parallel to it; and,

(2) the electric field by symmetry must have the same value everywhere on the surface where it is perpendicular.

Then Gauss's Law will always reduce to

$$E \times \textit{area of perpendicular surface}$$
$$= (\textit{total enclosed charge})/\varepsilon_0.$$