Problem: A charge distribution consists of four equal charges at the corners of a square. Does this arrangement have enough symmetry so you can use Gauss law to calculate the electric field at some distance from the square?

Solution: NO. Although Gauss' law is still valid, there is no surface through which the electric flux may be calculated easily. To calculate the electric field for four point charges, you could have to take vector sum of the four coulomb field.

Problem: A charge Q is distributed uniformly over the volume of a sphere of radius R. What is the electric field at the center of the sphere? Where is the electric field strongest? What is the magnitude of this strongest electric field?

As calculated previously

$$E = \frac{Q}{4\pi\epsilon_0} \frac{r}{R^3} \quad (r<R)$$

at $r = 0$

$$E = 0$$

And field is largest at the surface of the sphere

$$E = \frac{Q}{4\pi\epsilon_0 R^2}$$