From Griffiths: $3.28,3.32$

1. A charge of $-3 q$ is uniformly distributed on the surface of a sphere of radius $a$ that is centered at the origin. Two point charges, each $+q$, are located at $(\mathrm{a} / 2,0,0)$ and $(0, \mathrm{a} / 2,0)$ respectively.
(a) Find the electric monopole and electric dipole moment of these charges.
(b) Write the expression of the electric field due to these moments.
