1. Show that a system of charged particles, all of which have the same charge-to-mass ratio $e/m$, cannot emit dipole radiation if the center of mass of the system moves uniformly.

2. A spherical shell is uniformly charged and undergoes purely radial oscillations. Show that this configuration does not radiate.

3. Griffiths 11.3

4. Griffiths 11.6

5. Griffiths 11.8