First study section 5.4.3. Most important of this section in equation 5.86 , i.e. the definition of magnetic dipole moment.

1. A circular wire loop with radius $R$ is situated in the xy plane centered at the origin. It carries a current I running counterclockwise as viewed from the positive z -axis.
a. Determine its magnetic dipole moment.
b. What is the magnetic field at points far away from the origin.
c. Show that for points on the z-axis, your answer is consistent with the exact field given by example 5.6 on page 227.
2. A record of radius $R$ carries a uniform surface charge $\sigma$. It is rotated at constant angular velocity $\omega$. Find its magnetic dipole moment.
3. Find the magnetic dipole moment of a spinning spherical shell in example 5.11. Show that for points $r>R$ the potential is that of a perfect dipole.
4. Work through example 5.11.
