**QUESTIONS TO HAND IN – EXPERIMENT 10**

**NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**LAB INSTRUCTOR\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_LAB DAY/TIME\_\_\_\_\_\_\_\_\_\_ \_ \_\_**

**1.** The magnetic field of the Earth can be modeled as being caused by a giant bar magnet lying along the Earth’s axis. If this were true, what letter (N or S) would be printed on the end at the North Pole?

**2.** At our latitude, the Earth’s field has both a horizontal and a vertical component. Which one are you sampling when you use a compass to find your way?

**3.** According to eqn. (2), the period *T* of a bar magnet that is oscillating in a magnetic field of strength *B* is inversely proportional to the square root of *B*. If such a magnet is observed to have a period of 2 s, what will be the period if *B* is increased by a factor of 4?

**4.** Why is it necessary to be careful about the location of the structural girders and beams in a building when making magnetic measurements?

**5.** According to eqn. (1), the torque ** on a bar magnet in a magnetic field is maximum at what angle between the magnet and the field?