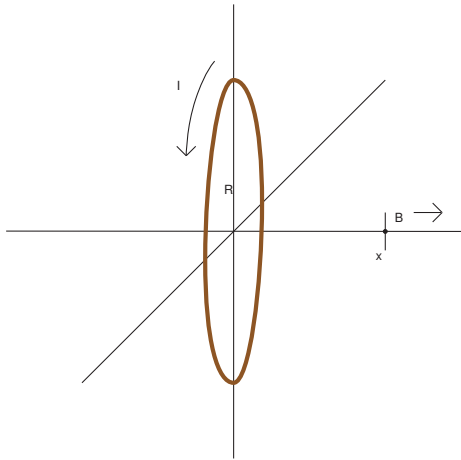


Name: \_\_\_\_\_

### Homework on Biot-Savart Law

1. Find the magnitude of the magnetic field  $\mathbf{B}$  generated by a ring at a point  $x$  away from the center of a ring on the axis of the ring with a current  $I$  flowing around the ring as shown in the diagram below.



2. An extremely long straight wire carries a current of 15 A, and there is a circular loop of radius 3 cm along the wire as shown below. Approximating the wire as infinitely long, determine the magnitude and direction of the magnetic field at the center of the loop generated by the current.

