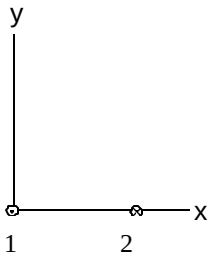
Physics 1102 Experiment 6 Homework

NAME_____

1. The figure shows an end view of two wires carrying current. x means into the page and • means out of the page. What is the direction of the force that wire 1 exerts on wire 2?



2. Refer to the figure in question 1. Is the direction of the magnetic field around wire one clockwise or counter-clockwise?

3. Two wires carrying equal currents exert a force $\mathbf{F}_o$ on each other. The current in each wire is doubled, while the distance of separation remaining constant. What is the magnitude of the force that one wire exerts on the other?

4. For the configuration in Part 3, if the electronic balance reading decreases as the current increases, is the force attractive or repulsive?

5. When a magnetic field is parallel to a current-carrying wire, what is the force on the wire?