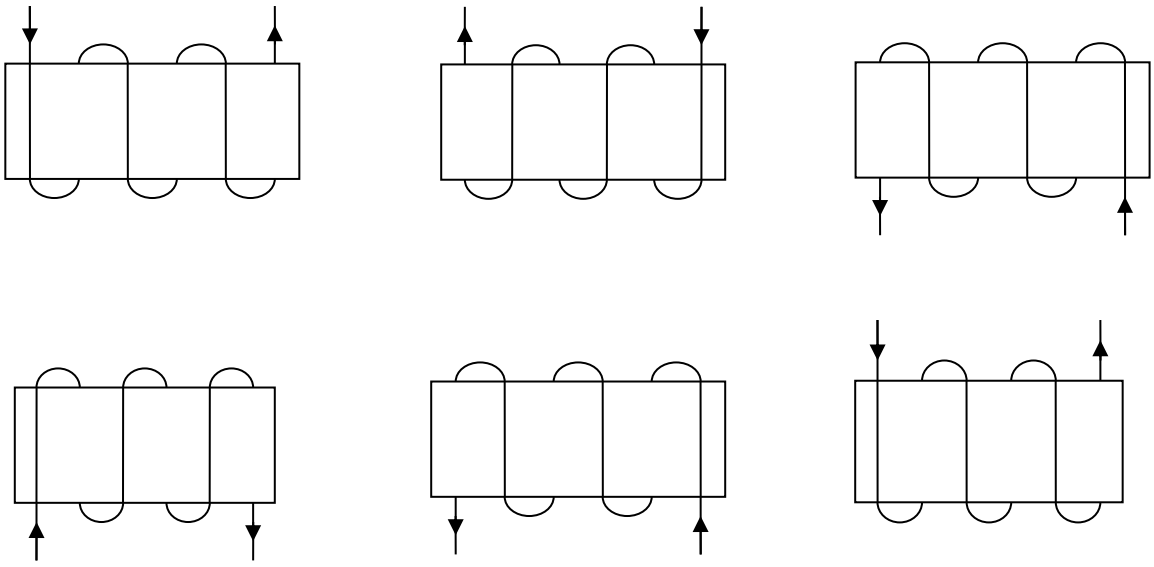
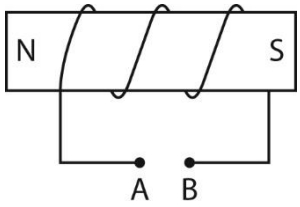
UCONN Physics: Name: _____
Solenoid Worksheet: / 30 Date: _____ Period: _____

1. In the Solenoids below, determine where the North and South poles would be located for each solenoid (electromagnet). Use 2nd left hand rule, as current flows due to movement of electrons. 12pts

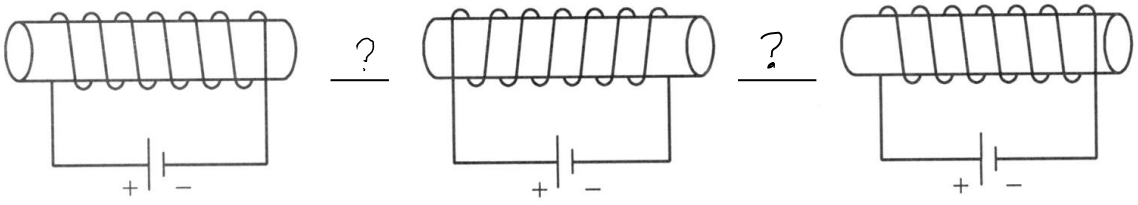


2. In the solenoid below, which terminal (A or B) of the power supply is positive, and which is negative? 2pts.



3. Electric current flows through three solenoids aligned side by side. 4 pts.

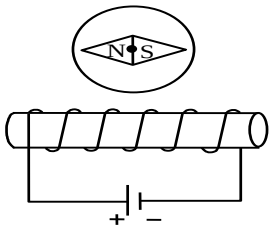
Solenoid 1 **Solenoid 2** **Solenoid 3**



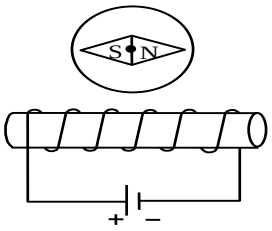
Determine if there will be attraction or repulsion <u>between</u> the three solenoids. Justify your answer by filling in the information on the solenoids.

4. Draw the magnetic field lines AND put in the current direction for each of the solenoids Below. A compass is placed in a magnetic field. Which of the following diagrams shows the compass needle pointing in the correct direction? Circle the letter for the correct Solenoid. 5pts

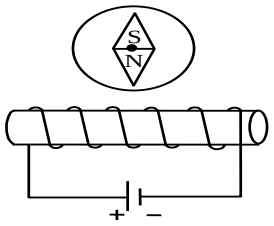
A



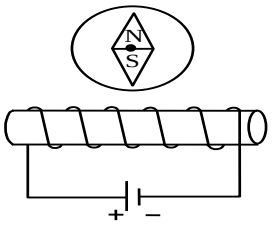
C



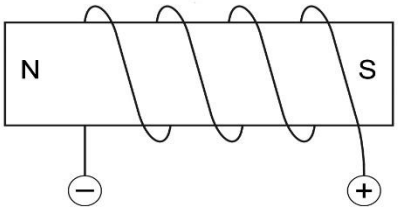
B

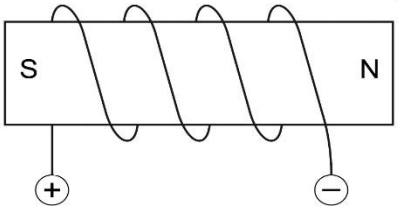


D



5. Draw the magnetic field around each of the solenoids below and label the conventional current in each. 2 pts.





6. **In the drawing below, determine the direction of Conventional current in each of the 5 wires.** Determine if the current goes "In" or "out" of points "A" and "B". Determine the direction of current in the last loop (5), draw it on the loop. 5 pts.

(1) (2) (3) (4) (5)