

Reflection and Self-Assessment**Completion:** Circle the statement that best describes the completion of this practice.

- I completed every question on the practice.
 - I did not complete some questions on the practice because:
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Online Worked Solution: Circle the statement that best describes how you used the online worked solutions.

- I used the online worked solutions to check my answers
- I did not use the online worked solution at all.
- I used the online solution to understand some questions I got incorrect.
- I used the online solution to help me learn how to answer some questions.

Confidence: Circle the statement that best describes your confidence in answering questions of this type in the future.

- I am confident I can answer nearly any question of this type correctly without using notes or other assistance.
- I am confident I can answer **MOST** questions of this type correctly without using notes or other assistance.
- I am **NOT** confident I can answer most questions of this type correctly without using notes or other assistance.

Time: Circle the statement below that best describes the total amount of time you spent actively working on this practice:

Less than an hour	Between one and two hours	Between two and three hours	Between three and four hours	More than four hours
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1. Sketch the electric field lines surrounding each of the following magnets

a.



b.



2. Sketch the magnetic field surrounding each of the following current carrying wires. The direction shown is the conventional current.

a.



b.



c.



3. Sketch the magnetic field surrounding each wire, do the magnetic fields work against each other or work together?

a.



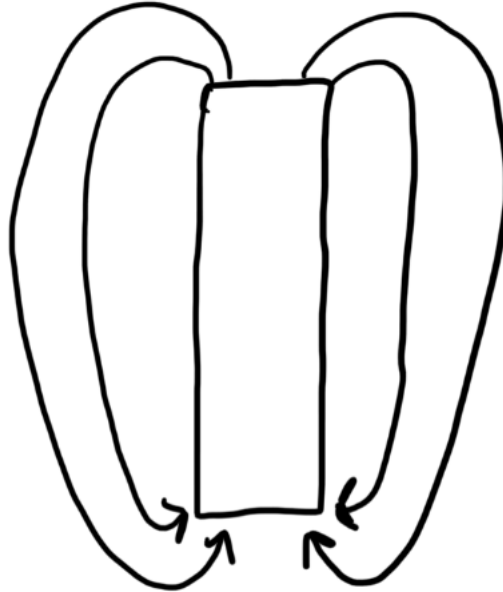
b.



c.

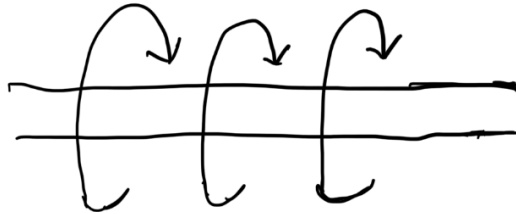


4. Determine which side of the bar magnet is North and which is South given the diagram below:



5. Determine the direction of conventional current given the magnetic field surrounding each of the following wires:

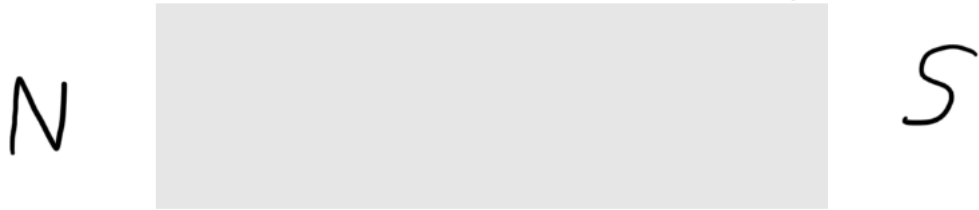
a.



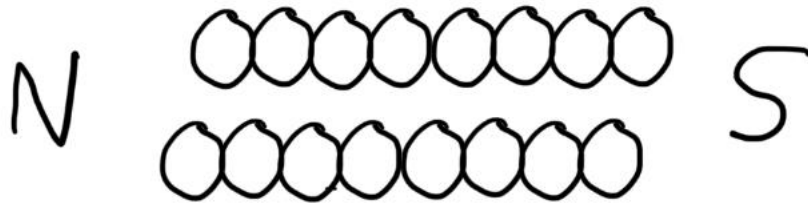
b.



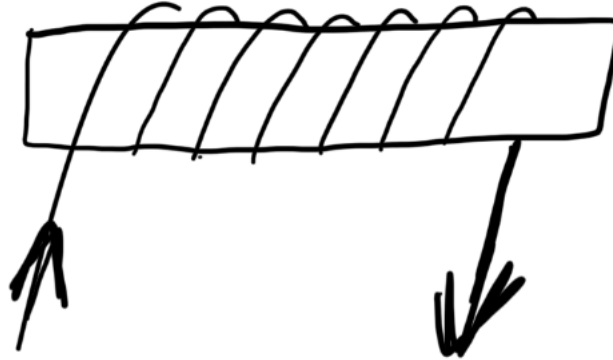
6. Draw the direction of the magnetic field inside and outside of the solenoid shown.



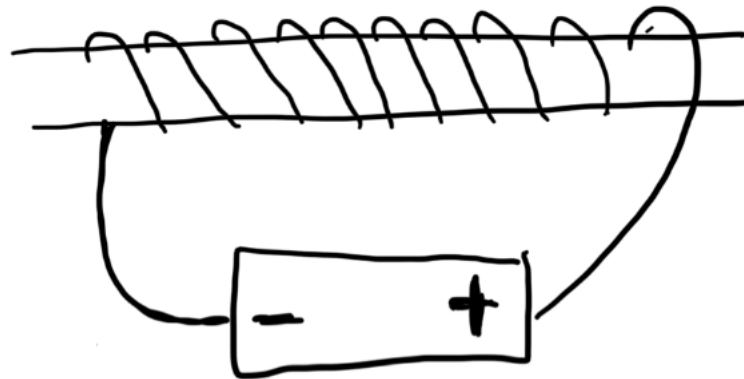
7. A solenoid has a north and south pole as shown. Label the direction current is flowing through each loop of the solenoid.



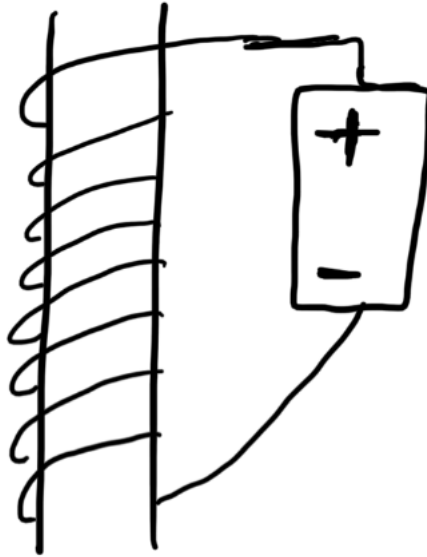
8. Determine the North and South poles of the solenoid shown. The conventional current is shown.



9. Determine the North and South poles of the solenoid shown



10. Determine the North and South Poles of the solenoid shown:



11. A hollow solenoid is 0.22 metres long and consists of 50 loops of wire. What is the strength of the magnetic field inside the solenoid when:

a. Current of 0.200 amps flows through the wire

b. Current of 1.2 amps flows through the wire:

c. Current of 5.2 amps flows through the wire:

12. A hollow solenoid is 0.52 metres long and has 2.5 amps of current flowing through it. What is the strength of the magnetic field inside the solenoid if

d. There are 650 loops

e. There are 1250 loops

f. There are 2500 loops

13. A hollow solenoid is 0.12 metres long, and inside it there is a magnetic field of strength 0.034T.

g. How many loops of wire are there if the current is 1.23 A?

h. How much current is there if there are 505 loops?

Answer Key – See online solutions