**Electricity & Magnetism Assignment #3 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

*Due Wednesday, October 16th, 2019 in class or by the end of lunch.* ☺

***You must show work to receive full marks!***

1. Draw **magnetic fields** around and between the following magnets. (show their direction using an arrow) (2)

S N N S N S

2. The average Canadian adult watches 28hrs of TV a week! Calculate the energy usage per year, **in kWh,** if the TV used has a power rating of 340 W. (2)

3. During a lab experiment, you build an electrical circuit. It has a power rating of 0.5 kW & and potential difference of 25 volts. What is the current intensity? (2)

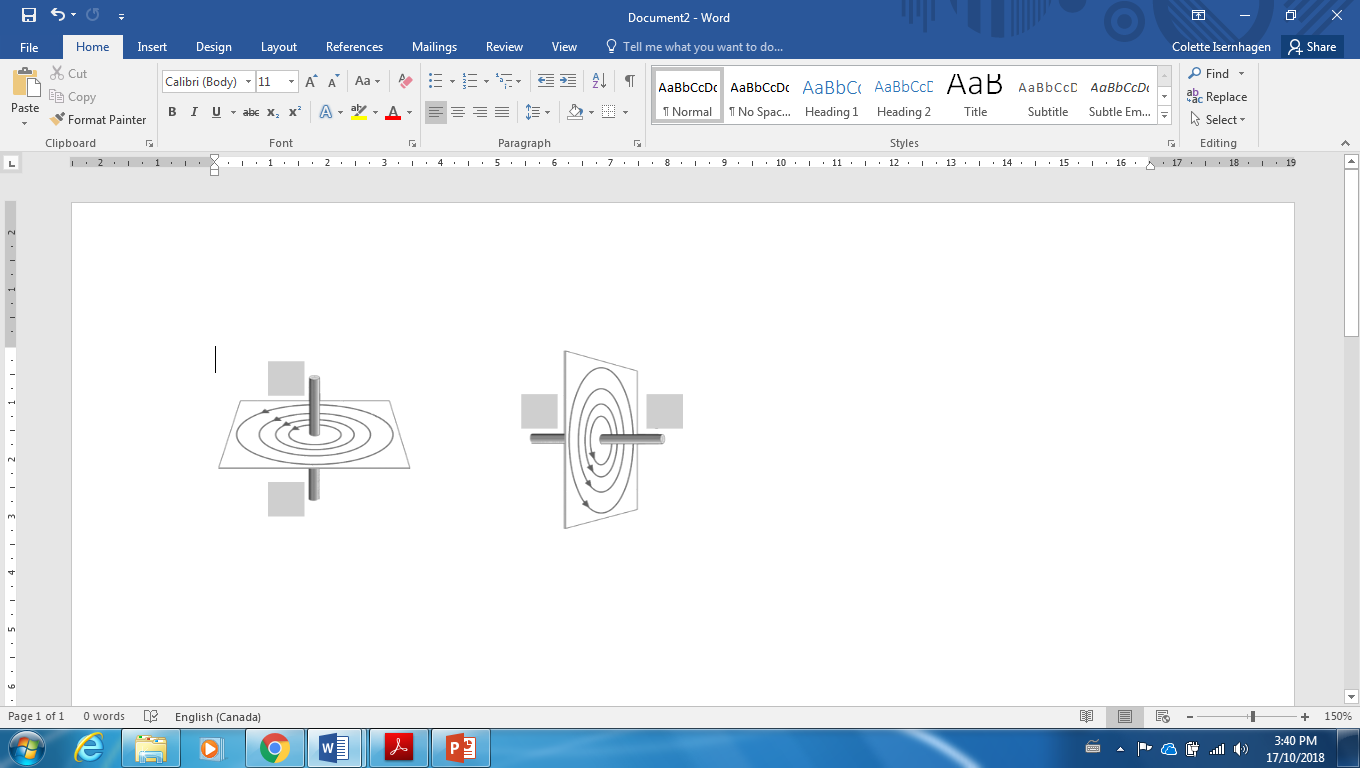
Answer #4

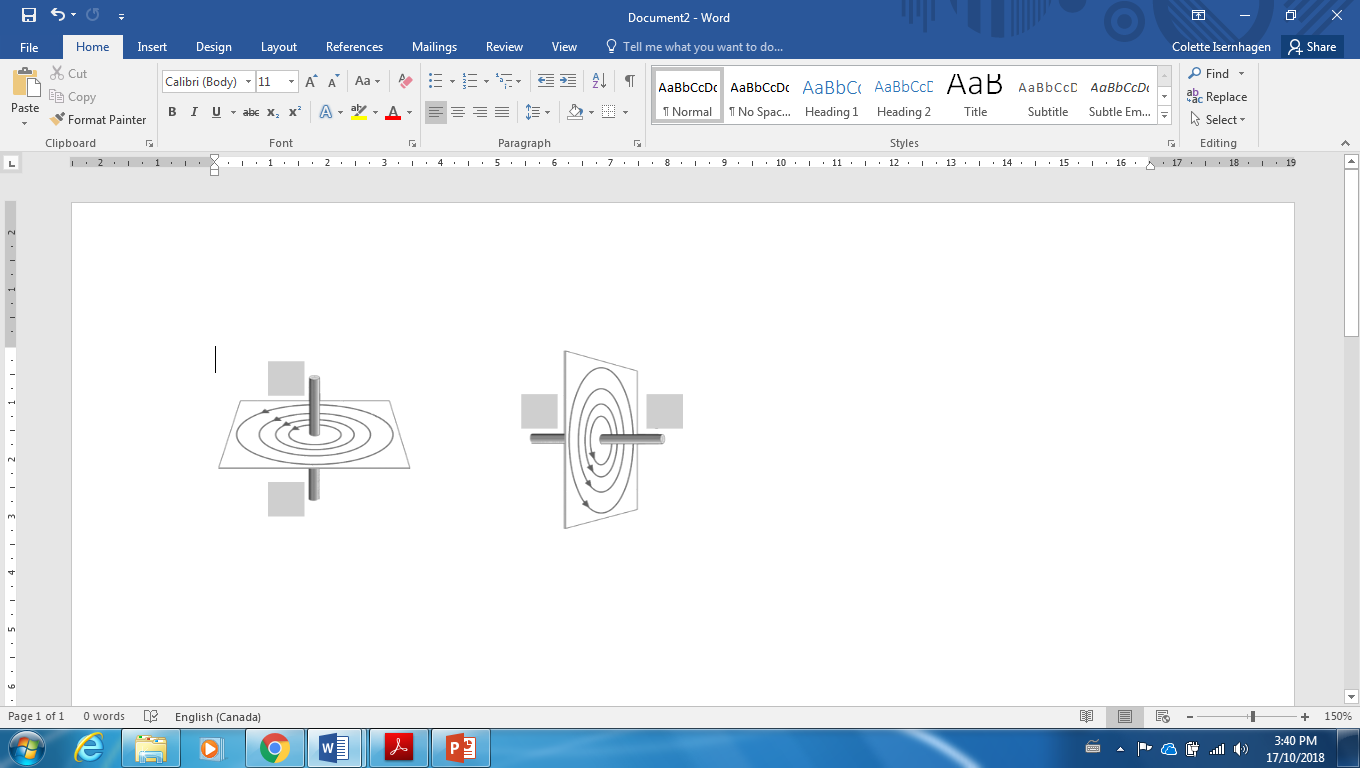
A) 0.02 A B) 50 A C) 12.5 A D) 20 A

4. A stereo plays for 10 hours & 30 min & consumes 1 512 000 J of energy. What is the power rating? (2)

Answer #5

1. 0.42 W B) 40.0 W C) 40.7 W D) 1 512 W

5. Indicate the **“+”** and **“–“** ends of the wire by studying the magnetic field. (2)

 a) b)

6. For each of the following bar magnets, draw the needle on every compass. compass = (2)

|  |  |  |  |
| --- | --- | --- | --- |
| a) | **+**  **\_** | b) | Image result for horseshoe magnet black and white |

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7. The school has 2 different types of drill presses in the technology workshop. Drill press A is used for 3 hours and Drill press B is used for 2 hours. Which drill press consumed **more** energy?

Some of their characteristics are given below. You must show your work! (2)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Drill Press A** | |  | **Drill Press B** | |
| Model CV-22 | |  | Model XT-56 | |
| 700 W | 60 Hz |  | 10.0 A | 60 Hz |
| 115 V |  |  | 120 V |  |

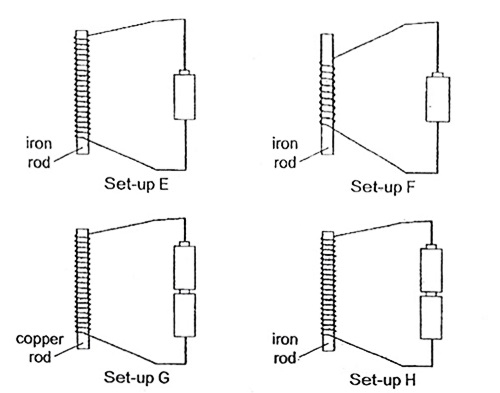
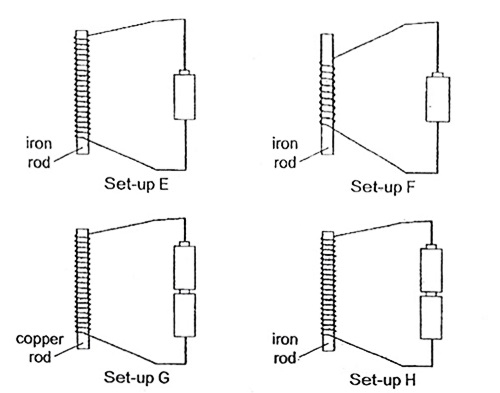
8. State whether the following will **attract** or **repel**. (Determine the north end of the solenoid first.) (2)

|  |  |
| --- | --- |
| a. | Attract or Repel  **+**  **S N**  **\_** |
| b. | Attract or Repel  **+**  **\_**  **+-**  **\_** |

9. Determine the strength of the following resistors and indicate their range. Use the table in your notes or refer to p468 of your text. (you do not need to show your work) (2)

|  |  |  |
| --- | --- | --- |
| **Band Colours** | **Resistance** | **Range** |
| **Violet – blue - black - gold** |  |  |
| **Yellow - red – red - silver** |  |  |

10. Circle the strongest electromagnet. (2)



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