

MY SO PRACTICE TEST

DIVISION B - MIDDLE SCHOOL, GRADES 6-9

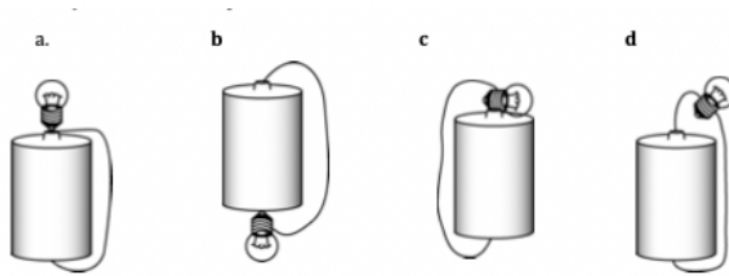
PRACTICE TEST

Instructions

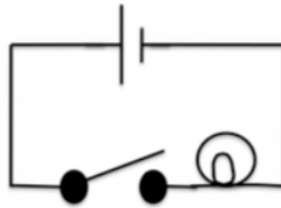
- You have 20 minutes to complete this test.
- You may write your answers directly in the test.
- You may use any notes or resources you have created or collected.
- You may use a calculator and scratch paper if necessary.
- Good Luck!

Test Questions

1. Which of the following is not a conductor?
 - a. Aluminum
 - b. Copper
 - c. Distilled Water
 - d. Sea Water
2. If you have four light bulbs all with different voltages and filaments of the same length, which one will have the thickest filament?
 - a. 10-W
 - b. 30-W
 - c. 60-W
 - d. 120-W
3. Which of the following is correct for a light bulb?
 - a. The light bulb has no resistance.
 - b. The resistance of the bulb decreases as it starts to glow.
 - c. The resistance of the bulb stays constant as the current voltage increases.
 - d. None of the above.



4. Which light bulb(s) in the image above are lit?
- Light Bulb A
 - Light Bulb B
 - Light Bulb C
 - Light Bulb D



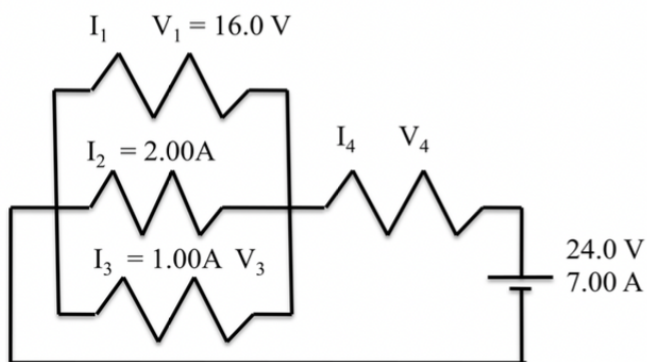
5. When the switch in the circuit above is closed, the light bulb will glow immediately. What is the average speed of the electrons in the wire?
- Less than 1 cm/s.
 - The speed of light.
 - The speed of sound waves in the wire.
 - The electrons do not move at all.
6. Which of the following types of wire with the same thickness and length will have the greatest resistance?
- Aluminum
 - Copper
 - Gold
 - Lead
7. Which of the following is a device that converts chemical energy into electrical energy?
- Ammeter
 - Battery
 - Generator
 - Motor
8. Which of the following is a unit of measure for resistance?
- Ampere
 - Ohm
 - Volt
 - Watt
9. Which of the following is a device used to measure current?
- Ammeter
 - Ampmeter
 - Potentiometer
 - Voltmeter

10. Which of the following is a device used to measure potential difference?
- Ammeter
 - Ampmeter
 - Potentiometer
 - Voltmeter
11. What is the source of all magnetism?
- tiny pieces of iron
 - ferromagnetic materials
 - moving electrical charge
 - tiny domains of aligned atoms
12. Which of the following is true for a bar magnet that has been cut in half?
- The pieces will no longer be magnetized.
 - Both pieces will be only the South Pole.
 - One piece will be the North Pole the other piece will be the South Pole.
 - Each piece will be a complete magnet with a North Pole and a South Pole.



13. A compass is placed next to a wire that is oriented vertically so that it passes through the page as shown in the diagram above. Which way is the current passing through the wire?
- Up
 - Down
 - East
 - West

Use the drawing below to answer questions #14-#17



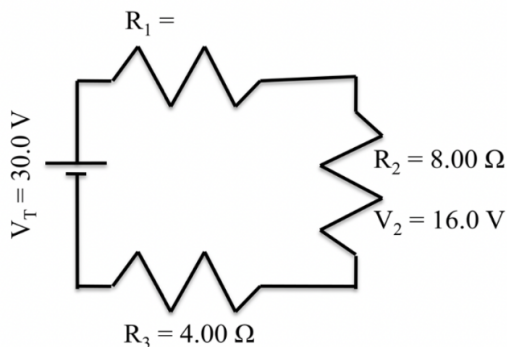
14. What is I_1 ?
- 1.00 A
 - 3.00 A
 - 4.00 A
 - 7.00 A

15. What is V_3 ?
- 4.00 V
 - 8.00 V
 - 16.00 V
 - 24.00 V

16. What is I_4 ?
- 2.00 A
 - 3.00 A
 - 4.00 A
 - 7.00 A

17. What is V_4 ?
- 4.00 V
 - 8.00 V
 - 16.00 V
 - 24.00 V

Use the drawing below to answer questions #18-#22



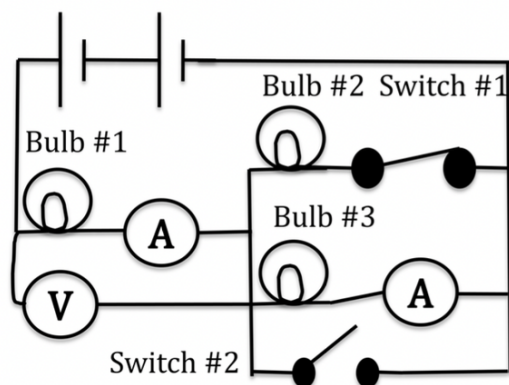
18. What is the current passing through Resistor R_3 ?
- 1.00 A
 - 2.00 A
 - 4.00 A
 - 7.50 A

19. What is the voltage drop across Resistor R_3 ?
- 6.00 V
 - 8.00 V
 - 16.00 V
 - 30.00 V

20. What is the current passing through the battery?
- 1.00 A
 - 2.00 A
 - 4.00 A
 - 7.50 A

21. What is the voltage drop across resistor R_1 ?
- 6.00 V
 - 8.00 V
 - 16.00 V
 - 30.00 V
22. What is the total resistance of the external circuit?
- 4.00 Ω
 - 12.00 Ω
 - 15.00 Ω
 - 30.00 Ω

Use the drawing below to answer questions #23-#30



23. How many batteries are present in the above circuit?
- Zero
 - One
 - Two
 - Three
24. What does the **A** represent in the above circuit?
- Ammeter
 - Ampmeter
 - Potentiometer
 - Voltmeter
25. In the circuit shown, which light bulb will be the brightest?
- Light Bulb #1
 - Light Bulb #2
 - Light Bulb #3
 - They will all be the same
26. If only Switch #1 is open, what will happen to the current in Bulb #1?
- Become Zero
 - Decrease
 - Become Greater
 - Stay the same

27. If only Switch #1 is open, what will happen to the current in Bulb #2?
- a. Become Zero
 - b. Decrease
 - c. Become Greater
 - d. Stay the same
28. If only Switch #1 is open, what will happen to the current in Bulb #3?
- a. Become Zero
 - b. Decrease
 - c. Become Greater
 - d. Stay the same
29. If only Switch #2 is closed, what will happen to the brightness of Bulb #1?
- a. Become Brighter
 - b. Become Dimmer
 - c. Go Out
 - d. Stay the same
30. If only Switch #2 is closed, what will happen to the brightness of Bulb #3?
- a. Become Brighter
 - b. Become Dimmer
 - c. Go Out
 - d. Stay the same

ANSWER KEY

- | | | | | | |
|-----|----------|-----|----------|-----|----------|
| 1. | C | 15. | C | 29. | A |
| 2. | D | 16. | D | 30. | C |
| 3. | D | 17. | B | | |
| 4. | B | 18. | B | | |
| 5. | A | 19. | B | | |
| 6. | D | 20. | B | | |
| 7. | B | 21. | A | | |
| 8. | B | 22. | C | | |
| 9. | A | 23. | C | | |
| 10. | D | 24. | A | | |
| 11. | C | 25. | A | | |
| 12. | D | 26. | B | | |
| 13. | B | 27. | A | | |
| 14. | C | 28. | C | | |