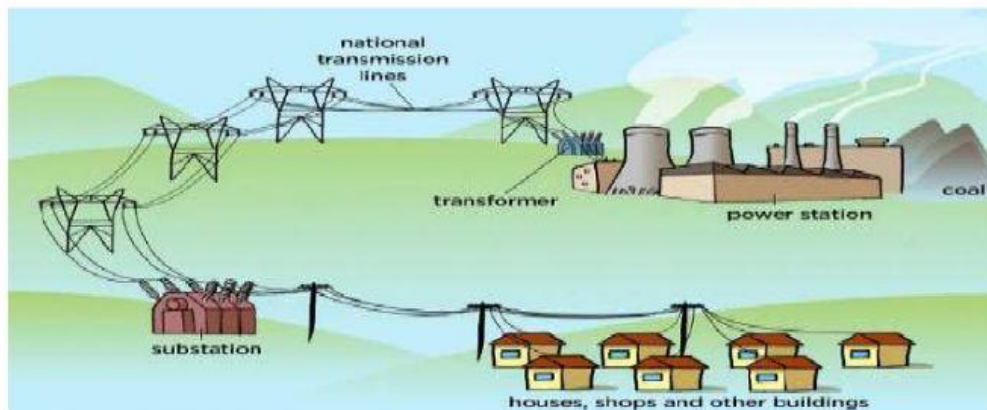


L. N. Coakley Science Department
Energy Unit Quiz

Name: _____ Date: _____ Grade _____.

1. The diagram below shows how the electrical energy is distributed from the power station to the consumers.
- I. Which two of the following parts are the component of the power grid?



- a) Wires and power station
 - b) Power station and transformers
 - c) Wires and transformers
 - d) Transformers and consumers
2. Which of the following statement best define the definition of power grid?
 - a) The system of cables and transformers linking the power station to the consumers
 - b) The system made up the power stations (Non-renewable and Renewable), cables, transformers, and the consumers.
 - c) The system made up the power station, cables and the consumers.
 - d) All of the above.

3. Complete the following paragraph about the power grid's functioning.

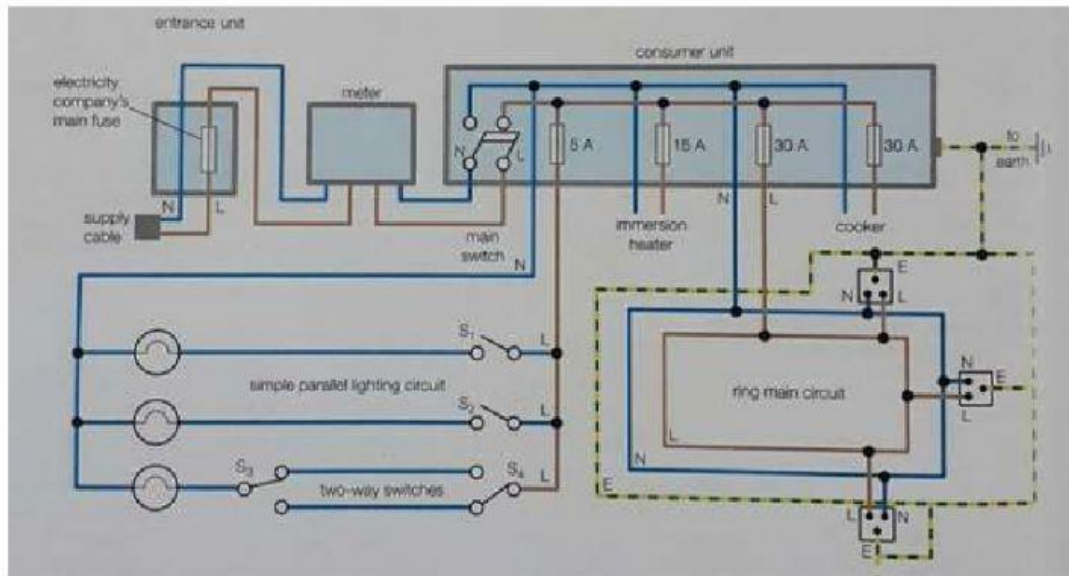
a) When electricity comes out of the power station it passes through a _____ transformer to increase the _____ and reduce the _____. Reducing the current makes the transfer of electricity more efficient as less energy is lost in the form of _____. The form the electricity gets to our home, the voltage needs to be _____ back down to a safe level, the electricity therefore passes through a _____ transformer.

4. Generating stations send power long distances using.

- a) High voltage, high current
- b) High voltage, low current
- c) Low voltage, high current
- d) Low voltage, low current

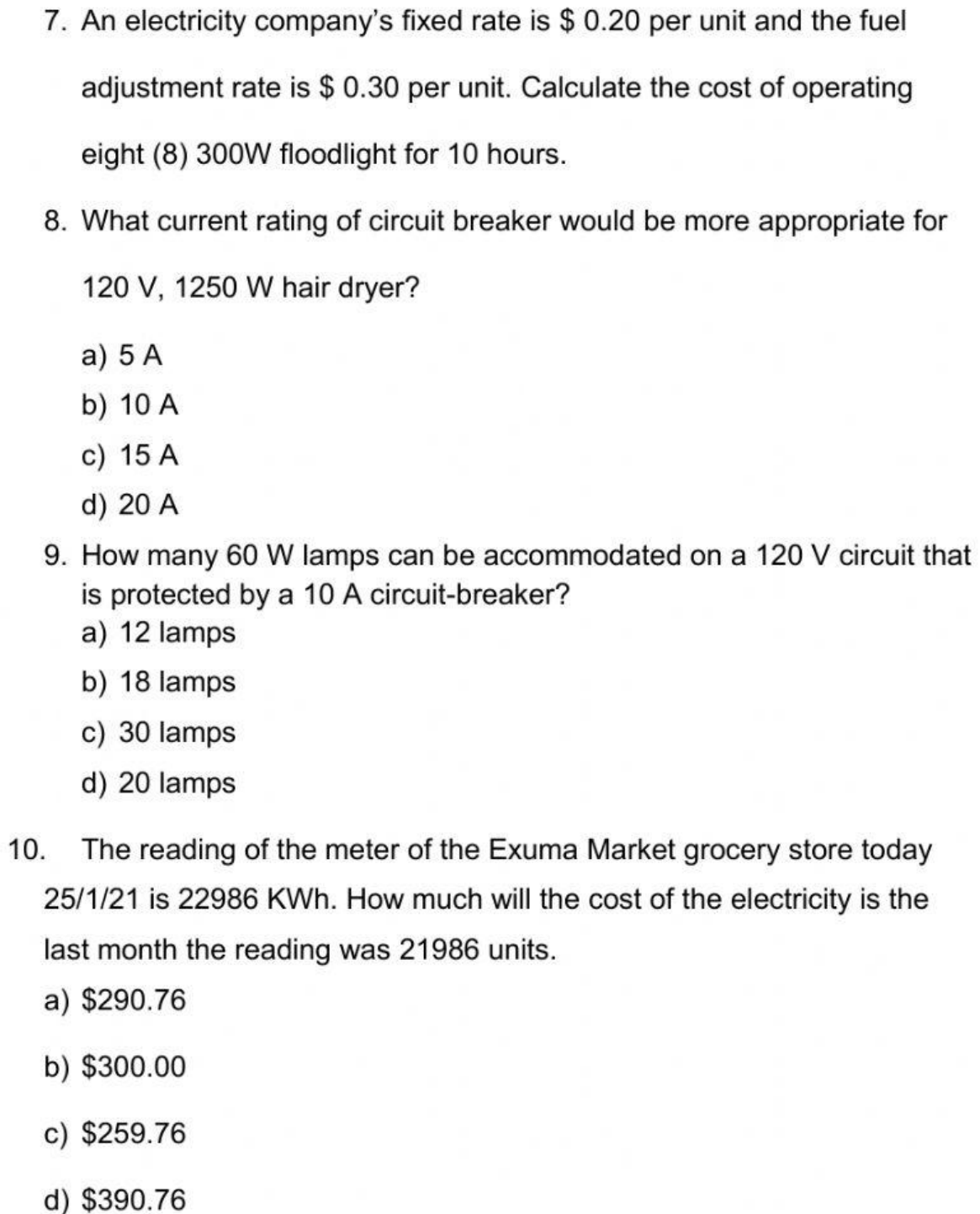
5. Mention 3 important safety rules to consider when we are working with electrical appliances.

6. The following diagram shows the electrical circuit of the drawing of the house.



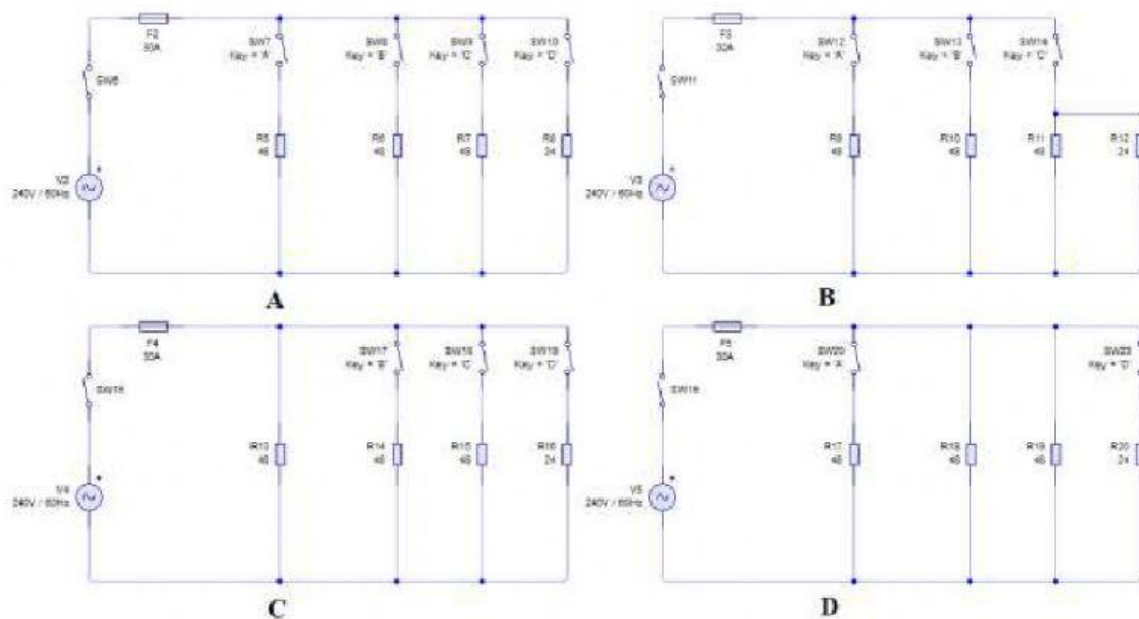
- a) What color wire represents the live wire? _____.
- b) What color wire represents the neutral wire? _____.
- c) What color wire represents the earth wire? _____.
- d) What is the function of the company's main fuse?

- e) Why the water heater and the electrical stove are connected to a separate circuit and not to the ring circuit?

- 
7. An electricity company's fixed rate is \$ 0.20 per unit and the fuel adjustment rate is \$ 0.30 per unit. Calculate the cost of operating eight (8) 300W floodlight for 10 hours.
8. What current rating of circuit breaker would be more appropriate for 120 V, 1250 W hair dryer?
- a) 5 A
 - b) 10 A
 - c) 15 A
 - d) 20 A
9. How many 60 W lamps can be accommodated on a 120 V circuit that is protected by a 10 A circuit-breaker?
- a) 12 lamps
 - b) 18 lamps
 - c) 30 lamps
 - d) 20 lamps
10. The reading of the meter of the Exuma Market grocery store today 25/1/21 is 22986 KWh. How much will the cost of the electricity is the last month the reading was 21986 units.
- a) \$290.76
 - b) \$300.00
 - c) \$259.76
 - d) \$390.76

11. An electric stove has three stove-top heating elements of resistance 48Ω each and one of resistance 24Ω . The elements can be switch on and off independently.

- i. Select the circuit diagram that fits more to the specifications, (the symbol for a resistor is been used as that for a heating element) to show how the elements and the switches are connected to the live and neutral wires of a 240 V supply.



- ii. Calculate the total current drawn from the supply when all four elements are operating at full power. _____.
- iii. Calculate the power of the stove. _____.