

p. 332 Review

1. In circuit A.

In circuit B, electrons will not be flowing in a complete circle (because of the orientation of the batteries)

2. b) 3.0V

3. c) 2.6V

4. No, because it would be considered an incomplete circuit

5. Yes, but it would not go through the portion with the "burned out" resistor.

6. ~~A~~ (C)

7. Resistance (R) the electrical unit is ohm (Ω)

Voltage (V) the electrical unit is Volt (V)

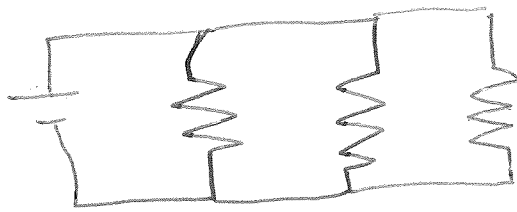
Current (I) the electrical unit is ampere (A)

8. volt

9. Series, parallel

10. increases, decreases.

11. Answers may vary

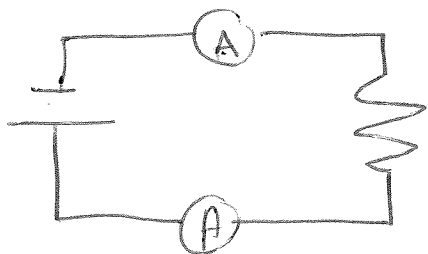


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12. The voltage of the battery would also be 0V

13. ~~2.0V~~

14.



← electric toaster

$$R = \frac{V}{I} = \frac{120}{2A} = 60 \Omega$$

15. Voltmeter is in parallel
Ammeter is in series.

16. 63Ω

$$R = \frac{V}{I} = \frac{2.6V}{0.041A} = 63 \Omega$$

17. $V = RI$

$$R = (60)(0.500)A$$

$$V = 60 \times 0.500 = 30V$$

If each cell is 1.5V then you need 20 cells. ($30 \div 1.5$)

$$18. R = \frac{V}{I} = \frac{4.8}{0.180}$$
$$= 25.5$$
$$= 26 \Omega$$

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22. * Note you are asked about current

$$R_1 = R_2 + R_3$$

$$\therefore 250 = 200 + R_3$$

$$\boxed{R_3 = 50 \text{ mA}}$$

$$R_4 = R_3 = (R_T)$$

$$\boxed{\therefore R_4 = 250 \text{ mA}}$$