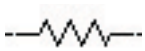
QUIZ 1

NAME DATE CLASS PERIOD

1. **Draw the electronic symbol of a resistor.**



2. **Draw the electronic symbol of a potentiometer used as a variable resistor.**

3. **In a series circuit, what effect does increasing the resistance have on the current?**

   In a series circuit, current and resistance are inversely related. Therefore, the current will decrease as the resistance of the circuit is increased.

4. **What units are used to express resistance?**

   Ohms (Ω)

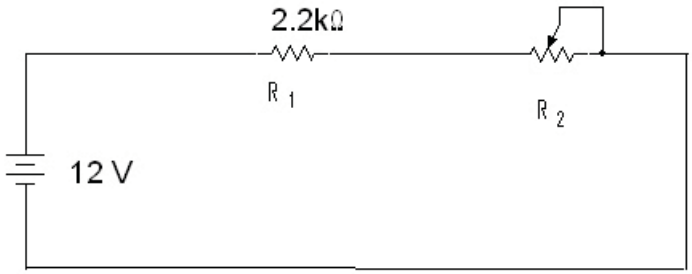
5. **Convert the following resistor values to Ohms.**

   1.2 kΩ 1200 Ω

   0.68 kΩ 680 Ω

   47 kΩ 47000 Ω

Questions 6-10 relate to the circuit shown.



6. **Calculate the circuit current if R_2 is set to 3.3 kW.**

   RT = R1 + R2 = 2200 Ω + 3300 Ω = 5500 Ω

   V = I * RT

   I = V / RT

   I = 12 / 5500 = .00218 A

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7. With R_2 set to 3.3 kW, calculate the voltage drop across R_1 and R_2.

Across R1: V1 = I * R1
V1 = .00218 * 2200
V1 = 4.8 V

Across R2: V2 = I * R2
V2 = .00218 * 3300
V2 = 7.2 V

8. If the voltage drop across R_1 is measured to be 6V, what is the value of R_2 in kW?

V1 = 6 Volts = I * R1
I = 6 / R1
I = 6 / 2200
I = .0027 A

V1 + V2 = VT
6 + V2 = 12
V2 = 6 Volts

V2 = 6 Volts = I * R2
R2 = 6 / I
R2 = 6 / .0027
R2 = 2200 Ω
R2 = 2.2 kΩ

9. What is the maximum possible resistance in the circuit and what would the corresponding current be?

(PLEASE NOTE: WE FOUND THIS QUESTION AMBIGUOUS, AND RECOMMEND YOU DISREGARD ANY ANSWERS GIVEN)

10. If R_2 is set to 5 kW, what voltage is measured across R_1?

RT = R1 + R2 = 2200 Ω + 5000 Ω = 7200 Ω

VT = I * RT
I = VT / RT = 12 / 7200 = .00166 A
V1 = I * R1 = .00166 * 2200 = 3.667 Volts