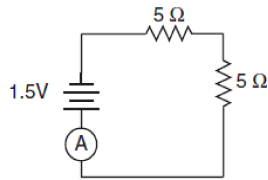


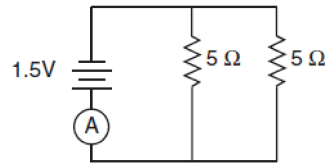
Problem set I

NAME: _____

Period: _____



(A)



(B)

- 1.** Which of the circuits above represents two 5-ohm resistors connected in series with an ammeter (which measures current) and a battery?

- (A) A
(B) B
(C) Both A and B
(D) Neither A nor B

Answer: _____

Justification with a fact:

In the first circuit, there is only one path for the electricity to follow, so it is in series. In the second circuit, there are junctions which represent parallel circuits.

Questions 2 through 5: A 100 V battery is connected to a 70-ohm resistor and a 30-ohm resistor in series.

- 2.** Calculate the equivalent resistance of the resistors.

Answer: _____

Justification with a fact:

3. Which resistor carries a larger current?

- (A) The 70-ohm resistor
- (B) The 30-ohm resistor
- (C) Both carry the same current

Answer: _____

Justification with a fact:

4. Which resistor takes the larger voltage across it?

- (A) The 70-ohm resistor
- (B) The 30-ohm resistor
- (C) Both have the same voltage across them

Answer: _____

Justification with an equation or a false calculation:

5. Calculate the total current in the circuit.

Answer: _____

Justification with a calculation, including a table of values with units: