

4. (7 points, suggested time 13 minutes)

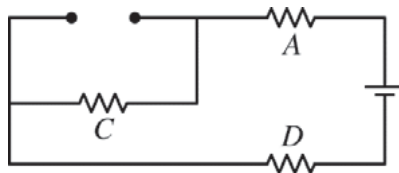
A circuit contains a battery and four identical resistors arranged as shown in the diagram above.

- (a) Rank the magnitude of the potential difference across each resistor from greatest to least. If any resistors have potential differences with the same magnitude, state that explicitly. Briefly explain your reasoning.

Ranking:

Brief explanation:

Resistor B is now removed from the circuit, and there is no connection between the wires that were attached to it. The new circuit diagram is shown below.



- (b) When resistor B is removed, does the current through resistor A increase, decrease, or remain the same?

____ Increase ____ Decrease ____ Remain the same

Briefly explain your reasoning.

- (c) When resistor B is removed, does the current through resistor C increase, decrease, or remain the same?

____ Increase ____ Decrease ____ Remain the same

Briefly explain your reasoning.