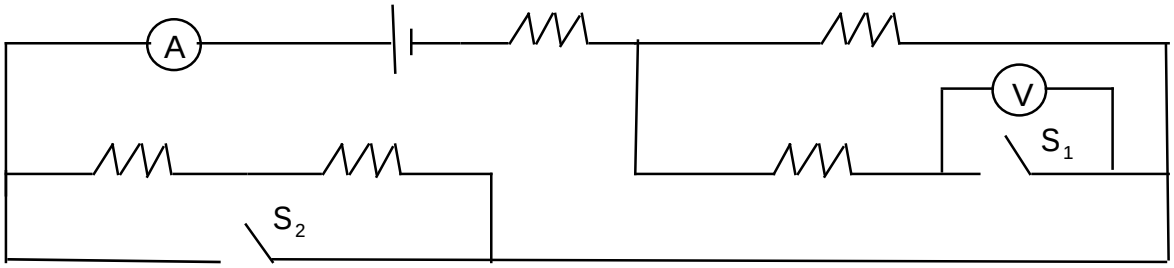
Circuit with Two Open and Closed Switches—Ammeter Readings [172]

Shown below is a DC circuit that contains two switches. Each switch is resistanceless when closed. All of the connecting wires should be considered to have zero resistance. All of the resistors shown are identical. The circuit contains an ideal ammeter and an ideal voltmeter. The diagram shows the switches open. Below the diagram are four different switch configurations for the circuit.



Configuration	S_1	S_2
A	open	open
B	open	closed
C	closed	open
D	closed	closed

Rank these configurations in terms of the ammeter reading.

Largest 1 _____ 2 _____ 3 _____ 4 _____ Smallest

Or, all configurations produce the same ammeter reading. _____

Or, all configurations produce a zero ammeter reading. _____

Please carefully explain your reasoning.

How sure were you of your ranking? (circle one)

Basically Guessed Sure Very Sure

1 2 3 4 5 6 7 8 9 10

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