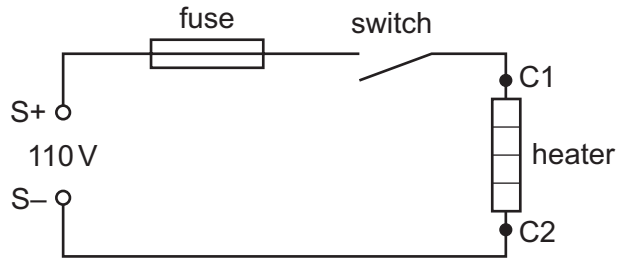
36 A 110 V supply of negligible internal resistance is connected to a heater through a fuse and a switch.



Terminals S+ and S– are the positive and negative terminals of the supply. Points C1 and C2 at either side of the heater are accessible for fault-finding.

A voltmeter is connected between S– and C1.

With the circuit working correctly, the voltmeter reading is noted with the switch closed.

A fault occurs and the voltmeter is again connected between S– and C1 with the switch closed.

Which fault would result in the same two voltmeter readings?

A a break in the wire of the heater

B a broken switch that cannot close correctly

C a melted fuse

D a short circuit in the heater