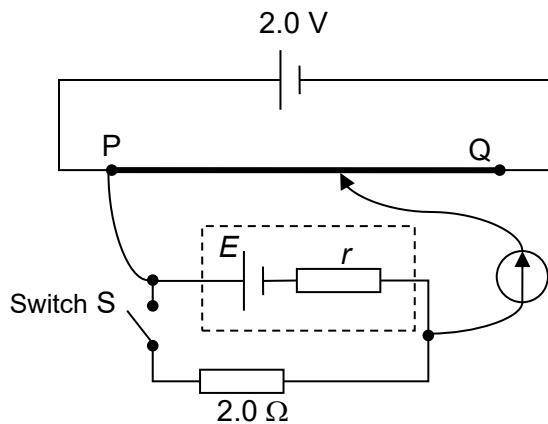


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The diagram below shows a potentiometer circuit used to determine the internal resistance r of a cell of e.m.f. E . The driver cell has an e.m.f. of 2.0 V with negligible internal resistance and the resistance wire PQ is 1.0 m long. The cell is connected in parallel with a resistor of 2.0Ω . When the switch is open, the balance length is 0.70 m and when the switch is closed, the balance length is 0.50 m.

What is the value of r ?



A

0.15Ω

B

0.40Ω

C

0.50Ω

D

0.80Ω

