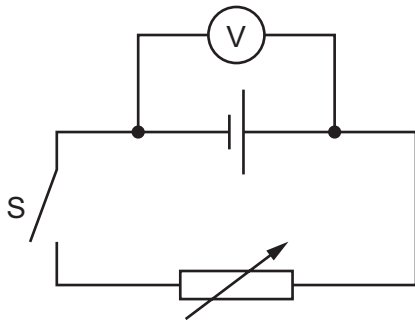


- 36** A cell that has internal resistance is connected to a switch S and a variable resistor. A voltmeter is connected between the terminals of the cell, as shown.



When switch S is open, the voltmeter reads 1.5 V. The switch is then closed and the variable resistor is adjusted to have a resistance of $4.0\ \Omega$. The voltmeter now reads 0.75 V.

What is the internal resistance of the cell?

- A** $1.0\ \Omega$ **B** $2.0\ \Omega$ **C** $4.0\ \Omega$ **D** $8.0\ \Omega$