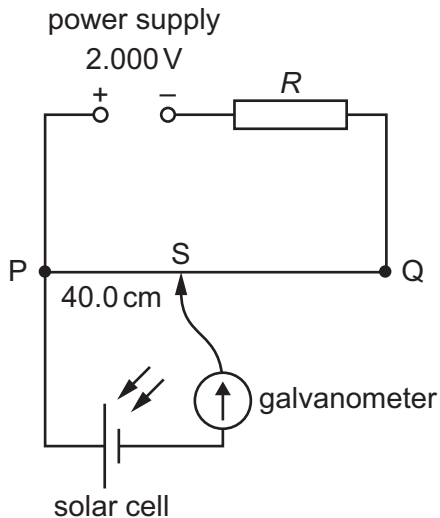


38 A power supply and a solar cell are compared using the potentiometer circuit shown.



The potentiometer wire PQ is 100.0 cm long and has a resistance of 5.00Ω . The power supply has an e.m.f. of 2.000 V and the solar cell has an e.m.f. of 5.00 mV .

Which resistance R must be used so that the galvanometer reads zero when $PS = 40.0 \text{ cm}$?

A 395Ω

B 405Ω

C 795Ω

D 805Ω