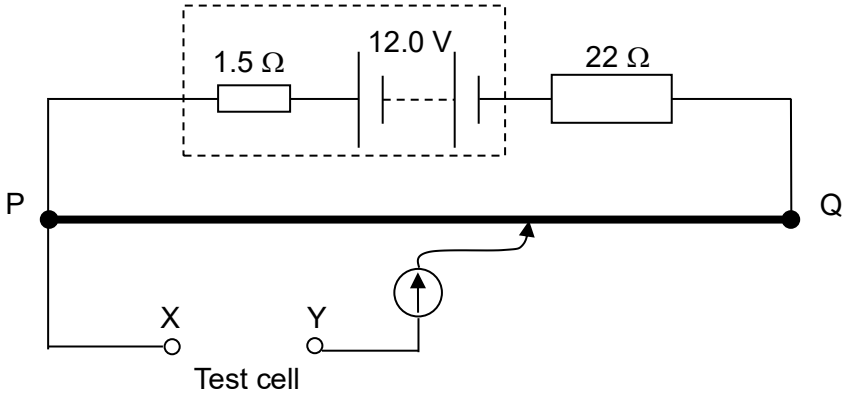
21 A student attempts to measure the e.m.f. of a test cell using a potentiometer circuit as shown in the diagram.



The wire PQ has a resistance of 3.0 Ω and the driver cell has an e.m.f. of 12.0 V. He was unable to obtain an observable balance length on PQ when he connected the circuit. The tutor he consulted told him that the test cell has an e.m.f. of a few millivolts. What could he do in order to obtain an observable balance length?

A Reversed the polarity of the test cell at XY.

B Use a driver cell of e.m.f. 20 V.

C Change the resistance of the connected resistor to 1 kΩ.

D Change the wire PQ to a wire of resistance 20 Ω .