Question 35 (Answer: **B**)

- A thermistor's resistance *rises* as it gets colder, so 20 kΩ becomes $20 \times 1.5 = 30$ kΩ.
- The two form a potential divider across 60 V, with a total of 50 kΩ.
- The voltmeter reads the fixed resistor's share: $60 \times 20/50 = 24$ V.

Question 36 (Answer: **D**)

- The known cell E_0 must drive current through the whole wire PQ, setting up a uniform potential gradient along it.
- E_X goes in the second loop with the galvanometer, from one end of the wire to the sliding contact J.
- The two cells must oppose; since $E_X < E_0$, a null point then exists somewhere along PQ.

Question 36 (Answer: **B**)

- The driver cell must sit across the *whole* wire XY, so there is a uniform potential gradient along it.
- The unknown cell goes in the other loop, in series with the galvanometer, joined to one end of the wire and to the sliding contact.
- The two cells must oppose each other, otherwise no balance point (zero deflection) can exist.