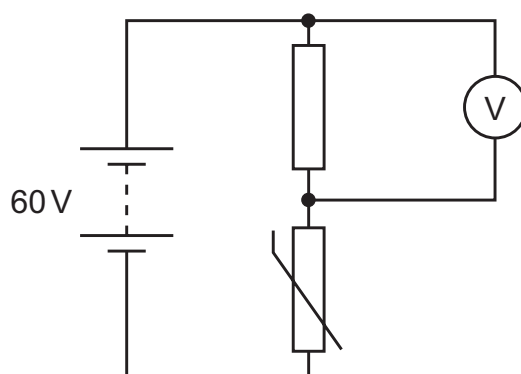


- 35** The diagram shows a circuit with a battery of electromotive force (e.m.f.) 60 V and negligible internal resistance, a $20\text{ k}\Omega$ resistor, a thermistor and a voltmeter. The resistance of the thermistor is $20\text{ k}\Omega$.



The temperature of the thermistor decreases, and this causes its resistance to change by 50% .

After this change, what is the reading on the voltmeter?

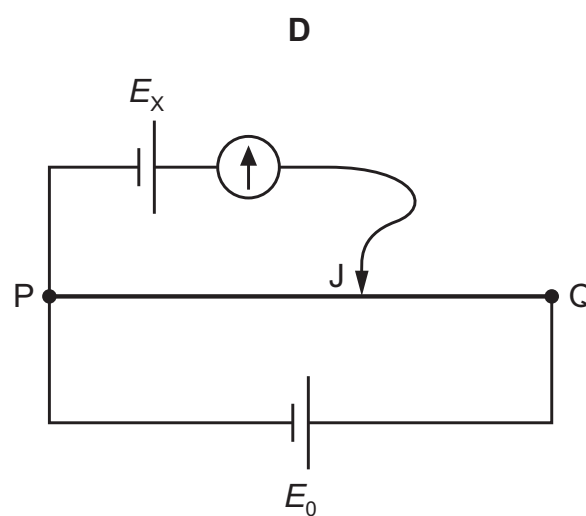
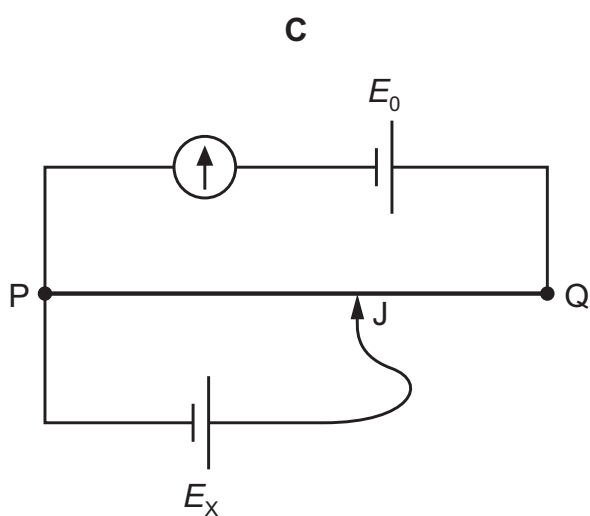
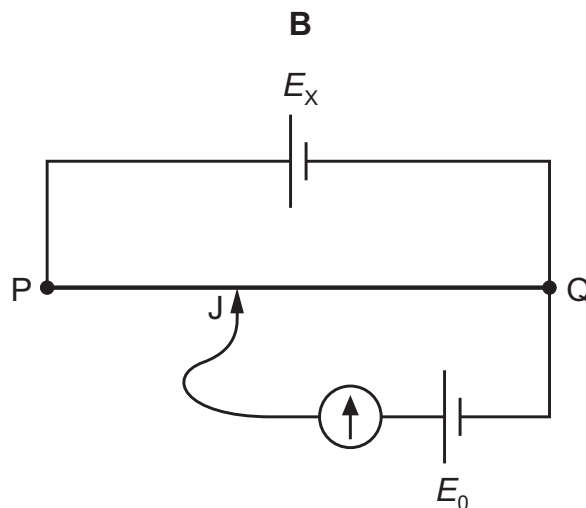
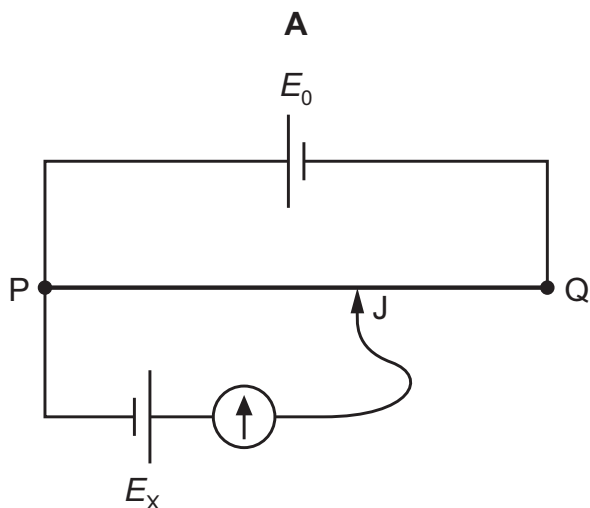
- A** 20 V **B** 24 V **C** 36 V **D** 40 V

- 36** A potentiometer circuit is used to determine the electromotive force (e.m.f.) E_x of a cell. The circuit includes a second cell of known e.m.f. E_0 and negligible internal resistance, and a uniform resistance wire PQ of known length.

E_x is less than E_0 .

The movable connection J can be positioned anywhere along the length of the resistance wire.

Which circuit is suitable for determining E_x ?



- 36** A potentiometer circuit may be used to determine the unknown electromotive force (e.m.f.) E of a cell. The circuit diagrams shown include a battery of known e.m.f. and negligible internal resistance, a uniform resistance wire XY and a galvanometer.

Which circuit diagram shows a suitable arrangement for determining E ?

