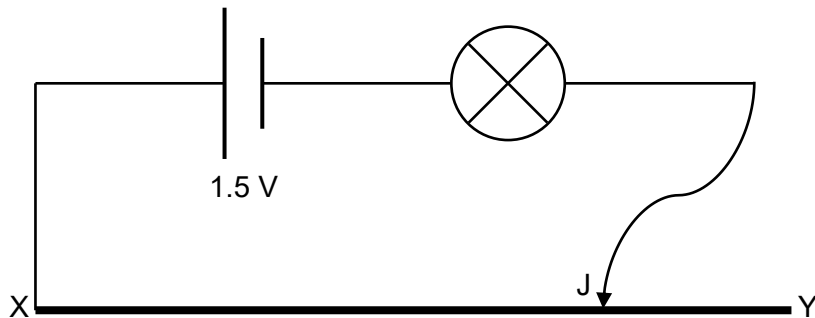


- 22** A cell of e.m.f. 1.5 V of negligible internal resistance is connected in series with a lamp of resistance $10\ \Omega$ which is in turn connected to a resistance wire XY of length 1.00 m with total resistance $20\ \Omega$ via a movable jockey J.



When J is at X, the power of the lamp is P .

Assuming that the resistance of the lamp remains constant, what is the power of the lamp when the length XJ is 0.50 m ?

- A** $0.13 P$ **B** $0.25 P$ **C** $0.50 P$ **D** $0.75 P$

- 23** A 150 mm long wire is at right angles to a uniform magnetic field and carries an electric current. When