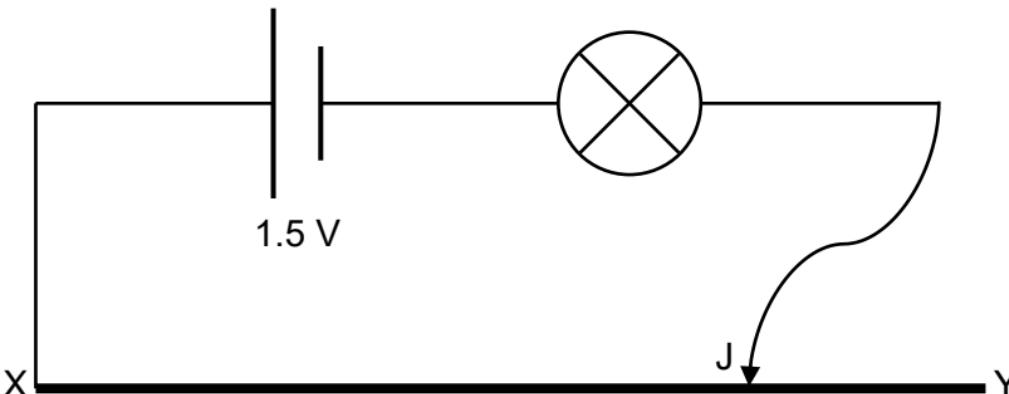


- 22 A cell of e.m.f. 1.5 V of negligible internal resistance is connected in series with a lamp of resistance $10\ \Omega$ which is in turn connected to a resistance wire XY of length 1.00 m with total resistance $20\ \Omega$ via a movable jockey J.



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