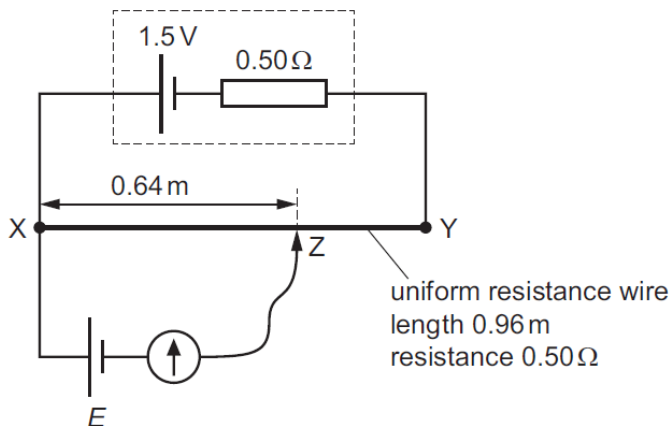22 A potentiometer circuit is used to determine the electromotive force (e.m.f.) E of a cell. The circuit includes a second cell of e.m.f. 1.5 V and internal resistance 0.50 Ω that is connected to a uniform resistance wire XY, as shown.

The resistance wire XY has a length of 0.96 m and a resistance of 0.50 Ω.

The movable connection Z is moved along wire XY. The galvanometer reading is zero when length XZ is 0.64 m.

What is the value of e.m.f. E ?

A 0.50 V B 0.75 V C 1.0 V D 1.1 V

23 The magnetic flux pattern formed in a region of space is shown