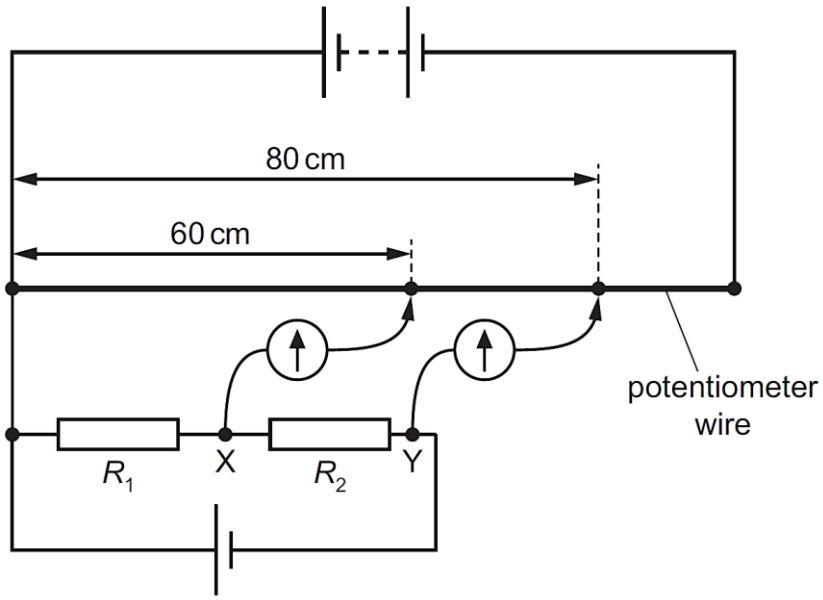
21 Potential differences across two resistors of resistances R_1 and R_2 are compared using a potentiometer wire (uniform resistance wire) in the electrical circuit shown.



One terminal of a galvanometer is connected to point X. The galvanometer reads zero when its other terminal is connected to a point that is a distance of 60 cm from one end of the potentiometer wire.

One terminal of a second galvanometer is connected to point Y. This galvanometer reads zero when its other terminal is connected to a point that is a distance of 80 cm from the same end of the potentiometer wire.

What is the ratio $\frac{R_2}{R_1}$?

A $\frac{1}{3}$

B $\frac{3}{4}$

C $\frac{3}{1}$

D $\frac{4}{3}$