

7 Fig. 7.1 shows a circuit containing a 6.0V battery of cells and three identical resistors.

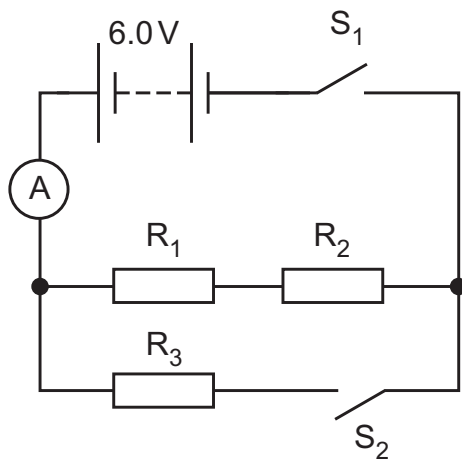


Fig. 7.1

(a) S₁ is closed and S₂ is open. The current in the ammeter is 0.080A.

Calculate the resistance of R₁.

resistance = [2]

(b) S₁ and S₂ are both closed.

(i) Determine the reading on the ammeter. Show your working.

ammeter reading = [3]

(ii) Explain in terms of work done and potential difference why there is a larger heating effect in R₃ than in R₁.

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 [2]