35 The combined resistance R_T of two resistors of resistances R_1 and R_2 connected in parallel is given by the formula shown.

$$\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2}$$

Which statement is used in the derivation of this formula?

A The currents through the two resistors are equal.

B The potential difference across each resistor is the same.

C The supply current is split between the two resistors in the same ratio as the ratio of their resistances.

D The total power dissipated is the sum of the powers dissipated in the two resistors separately.

Space for working