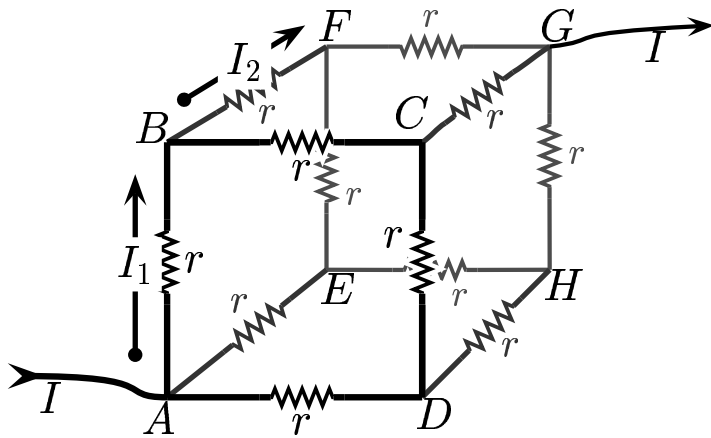


Given: A cubic network has identical resistors, each with a resistance r . A current I enters the network at A and leaves at G .



Find current I_1 and I_2 in terms of the total current I through the network.

- A) $I_1 = \frac{I}{2}$ and $I_2 = \frac{I}{4}$.
- B) $I_1 = \frac{I}{3}$ and $I_2 = \frac{I}{3}$.
- C) $I_1 = \frac{I}{3}$ and $I_2 = \frac{I}{6}$.

By symmetry, at A , I is equally divided into 3 equal branches. So

$I_1 = \frac{I}{3}$. By symmetry, at B , I_1 is equally divided into 2 equal branches. So

$$I_2 = \frac{I_1}{2} = \frac{I}{6}.$$

Answer **C**.

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