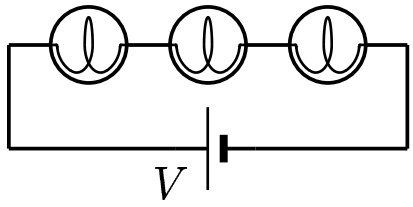
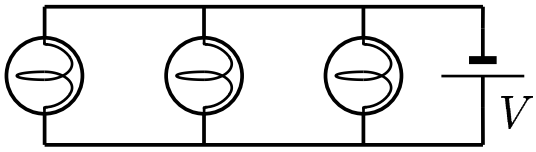
Three identical bulbs are connected in two ways as shown.




*CASE* I




*CASE* II

Determine $\frac{P_{\text{II}}}{P_{\text{I}}}$, where $P_{\text{I}}$ is the power per bulb in *CASE* I, and $P_{\text{II}}$ is in *CASE* II.

A) $\frac{P_{\text{II}}}{P_{\text{I}}} = 9$

B) $\frac{P_{\text{II}}}{P_{\text{I}}} = 3$

C) $\frac{P_{\text{II}}}{P_{\text{I}}} = \frac{1}{3}$

D) $\frac{P_{\text{II}}}{P_{\text{I}}} = \frac{1}{9}$

$$\frac{P_{\mathrm{II}}}{P_{\mathrm{I}}} = \frac{\dfrac{V^2}{R}}{\dfrac{(V/3)^2}{R}} = 9$$

.

Answer **A**.

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