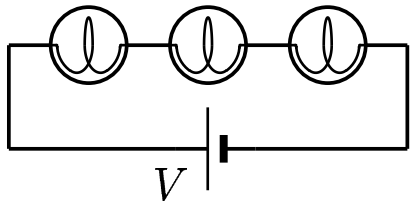
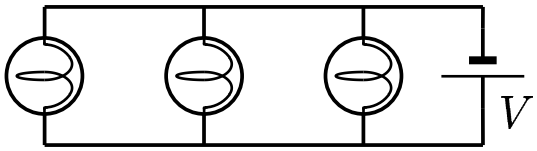
Three identical bulbs are connected in two ways as shown.



CASE I



CASE II

Determine $\frac{P_{\text{II}}}{P_{\text{I}}}$, where P_{I} is the power per bulb in *CASE* I, and P_{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) $\frac{P_{\text{II}}}{P_{\text{I}}} = \frac{1}{9}$

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

.

Answer **A**.