Three identical bulbs are connected in two ways as shown.

![Circuit Diagram]

CASE I

CASE II

Determine \( \frac{P_{II}}{P_I} \), where \( P_I \) is the power per bulb in CASE I, and \( P_{II} \) is in CASE II.

A) \( \frac{P_{II}}{P_I} = 9 \)

B) \( \frac{P_{II}}{P_I} = 3 \)

C) \( \frac{P_{II}}{P_I} = \frac{1}{3} \)

D) \( \frac{P_{II}}{P_I} = \frac{1}{9} \)

Answer A.

\[
\frac{P_{II}}{P_I} = \frac{V^2}{\left(\frac{V}{3}\right)^2} = 9
\]

27.06-01 ‘Power in Two Circuits’ 2004-3-24