PROBLEM 2-7N QUESTION
Relationships Between Assemblies Of Different Pin Arrays

A utility wishes to replace the fuel in its existing PWR from 15x15 fuel pin array assemblies to 17x17 fuel pin array assemblies. What is the ratio of the core average linear power, $\overline{q}'$, in the new core to the old core, assuming the heated length, fuel mass and number of fuel assemblies are maintained constant, i.e.,

a) $\dfrac{\overline{q}'_{17x17}}{\overline{q}'_{15x15}} = ?$

b) $\dfrac{\overline{q}''_{17x17}}{\overline{q}''_{15x15}} = ?$

Rev 9/22/2006