HW4-5 Soln)

The power output of the star is given by $P = CT^4$. The constant C includes the surface area of the emitter, which is why the stars are described as being the same size for the purposes of this problem.

$$\frac{P_A}{P_B} = \frac{CT_A^4}{CT_B^4} = \frac{3000^4}{50\ 000^4} = 1.3 \times 10^{-5}$$