Note that

$$n(T) = n(T_1) + n(T_2) + 1$$

and

$$h(T) = \max(h(T_1), h(T_2)) + 1$$

Proof:

$$\begin{aligned}
n(T) &= n(T_1) + n(T_2) + 1 \\
&\geq (2h(T_1)+1) + (2h(T_2)+1) + 1 && \text{by inductive assumpti} \\
&= 2(h(T_1) + h(T_2)) + 3 \\
&\geq 2(\max(h(T_1), h(T_2))) + 3 \\
&= 2(\max(h(T_1), h(T_2)) + 1) + 1 \\
&= 2(h(T)) + 1 && \text{by def. of } h(T)
\end{aligned}$$

Therefore,

$$n(T) \geq 2h(T) + 1$$