Exercises

3.228 [08K] Prerequisites: [073]. The type of well ordering of $\mathbb{N}$ is called ω. Given $k \geq 2$ natural, $\mathbb{N}^k$ endowed with the lexicographical order is a well-ordered set (for [073]), and the type of ordering is called ω^k. Show that $\omega^k \leq \omega^h$ for $h > k$, and that ω^k, ω^h do not have the same type of order.