The solution to the problem should start in this page.

1.– Find the following limit:

$$\lim_{n\to\infty}\left[\frac{\sqrt[n]{a}+\sqrt[n]{b}+\sqrt[n]{c}}{3}\right]^n, \quad a,b,c>0$$

2.– Property 5 of limits of sequences states that, if $\{a_n\}\to a$, $\{b_n\}\to b$, being $a<b$, then

$$\exists n\in\mathbb{N}\,/\,a_m<b_m \quad \forall m\geq n$$

Prove that not only is satisfied $a_m<b_m$, but also

$$\exists n\in\mathbb{N}\,/\,a_p<b_q \quad \forall p,q\geq n$$
