

Problem 4: Limit of a Sequence

Let a_n be the sequence of real numbers defined by $a_1 = 1$ and $a_{n+1} = \sqrt{a_1 + a_2 + \cdots + a_n}$ for all $n \geq 1$. Determine $\lim_{n \rightarrow \infty} a_n$.

As always, show your work, fully explain and justify your answer. A solution mainly obtained by computers or calculators will not be accepted.

Posting Date 10/4/2019. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 (e-mail or hard-copy, but hard copy submissions must include a time stamp) by 5 pm on 10/11/2019.