

Problem 7: Limit of a Sequence

Let x_n be the sequence of real numbers given by
 $2, \sqrt{6}, \sqrt{3\sqrt{6}}, \sqrt{3\sqrt{3\sqrt{6}}}, \dots$

Show that x_n is convergent, and find its limit.

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 4/14/2018. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 (e-mail or hard-copy, but hard copy submissions must include a time stamp) by 3 pm on 4/27/18.