

## Homework #15 (due March 16)

1. Let  $a_1 = 0$ ,  $a_{n+1} = \sqrt{8 + 2a_n}$ .

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a) Show that the sequence  $\{a_n\}$  is increasing.

b) Show that  $a_n \leq 4$  for all  $n$ .

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c) Show that  $\lim_{n \rightarrow \infty} a_n = 4$ .

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