

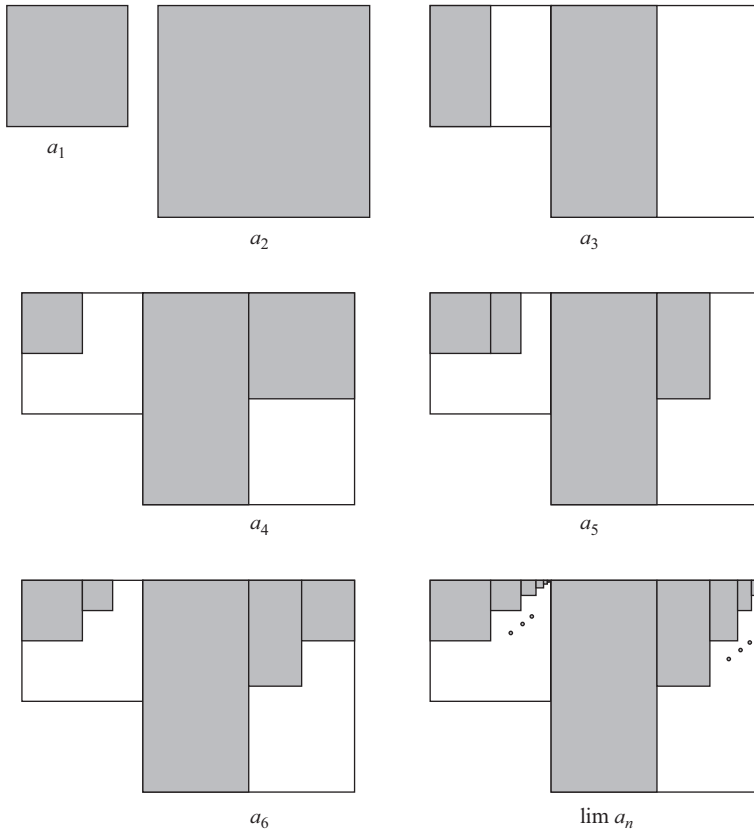
Proof Without Words: Limit of a Recursive Arithmetic Mean

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Define the sequence $(a_n)_{n \geq 1}$ by $a_{n+1} = (a_n + a_{n-1})/2$ for $n \geq 2$ with two positive initial values a_1 and a_2 . Then

$$\lim_{n \rightarrow \infty} a_n = \frac{a_1 + 2a_2}{3}.$$

Proof.



Summary. Visual proof of the limit of a recursive arithmetic mean sequence.

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