

This is a review text file submitted electronically to MR.

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**Author:** This line will be completed by the MR staff.

**Short title:** This line will be completed by the MR staff.

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**Primary classification:** 40A15

**Secondary classification(s):** 15A60; 47A63; 26E60

**Review text:**

Relationship between taking a square root of a number and calculating it via continued fraction (or, in a more natural setting, between solving quadratic algebraic equation by closed formula and by iterations) is a source of fascination of the present authors who do so with matrices, mainly of small dimensions. They find the necessary square roots in the explicit definition of the geometric mean of two matrices, and have a lot of fun with proving convergence of their matrix continued fractions and with demonstrating its quick rate on a number of illustrative numerical examples.