

CONTINUED FRACTIONS!

$$\sqrt{2} = 1 + \frac{1}{2 + \frac{1}{2 + \frac{1}{2 + \frac{1}{\ddots}}}}$$

$$e = 2 + \frac{1}{1 + \frac{1}{2 + \frac{1}{1 + \frac{1}{1 + \frac{1}{4 + \frac{1}{1 + \frac{1}{1 + \frac{1}{6 + \frac{1}{1 + \frac{1}{1 + \frac{1}{8 + \frac{1}{\ddots}}}}}}}}}}}}}}$$

This can be done for any real number, and truncating these continued fractions at each stage provably produces the best rational approximations to their real limits.

Interested?

Mathophiles, Wednesday, October 27, 1999 Dennis 231.