

MATH 42-NUMBER THEORY
PROBLEM OF THE DAY #18
DUE THURSDAY, APRIL 21, 2011

1. What is the value of this repeating continued fraction?

$$x = 1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{\ddots}}}}$$

Compute the first few convergents. Do you notice anything interesting?