

## MATH 350 ASSIGNMENT 6.

The “show-off problems” are starred. You are encouraged to come to my office and show me your solution. I will keep a record of people who are the first to solve any given starred problem.

Part I. Problems from Rosen’s book.

- 13.4, #4(b) (p. 545), #6(g) (p. 545), \*#8 (p. 545)

Part II.

- \*1. In one of the exercises of Rosen’s book, it was mentioned that the continued fraction expansion of  $e = \exp(1)$  is

$$e = [2; \overline{1, 2n, 1}]_{n=1}^{\infty} = [2; 1, 2, 1, 1, 4, 1, 1, 6, 1, \dots].$$

Read and understand the proof of the above statement, and fill in the details of the continued fraction expansion of  $e^{2/k}$  for  $k \in \mathbb{Z}_{>0}$  in *Journal of the London Mathematical Society* **20** (1945), 194–198 by C. S. Dickson.