

HOMEWORK 12
DISCRETE MATHEMATICS II
DUE 03-06

- (1) Suppose that $A(x)$ is the generating function for a_0, a_1, a_2, \dots , so that

$$A(x) = \sum_{n=0}^{\infty} a_n x^n.$$

Your answers to the first two parts will be sums depending on n .

- (a) Find a formula for the coefficient of x^n in $A(x)^2$. Your answer will be a sum depending on n .
 - (b) Suppose that $A(x)^2 = 1 + x$. Use (a) to compute the first few terms (up to x^4) of $A(x)$. **Show your work.**
- **Five** book problems: #8.4.3, 4, 11, 13, 16. It may help to use Table 1 on p. 542. Your answers to #8.4.13, 16 may be of the form “the coefficient of [something] in [something]”.