

Math 385 Homework 13

Electronic Submission Deadline: 2am EST, Wed. Apr. 28, 2004.

Written part due at beginning of class on Wed. Apr. 28, 2004.

1. p. 455, 16.16.

2. p. 455, 16.17.

3. p. 458, 16.19.

4. (a) Prove by induction on n :

$$(x + y)^n = \sum_{r=0}^n \binom{n}{r} x^{n-r} y^r. \quad (\text{Binomial Theorem.})$$

(b) Using (a), or otherwise, evaluate $\sum_{r=0}^n \binom{n}{r}$.