

Complex Functions 2010: Hand-in exercise 4

February 22, 2010

1. Calculate the following sum for $n = 0, 1, 2, 3$. What is your hypothesis?

$$\sum_{k=0}^n \binom{2k}{k} \binom{2(n-k)}{n-k}$$

2. Compare the sum with the expression in the top of page 61 of S. Lang.
Use this to prove your hypothesis. Pay attention to convergence!

The method you used is known as the method of 'generating functions'.