

## Homework 6, Sta/OR 524 Fall 2005

Due Nov. 11

1. page 300 problem 2(a).
2. page 302 problem 6. Use two methods to solve this: (a) the convolution formula (b) the moment generating function.
3. page 301 problem 3 (a). Use two different methods to solve this.
4. Suppose  $X_1, X_2, \dots, X_n$  are independent, all have exponential distribution with a parameter  $\lambda$ .

Find the moment generating function of  $X_1 + X_2 + \dots + X_n$ .

Find the moment generating function of

$$\frac{(X_1 + X_2 + \dots + X_n) - n/\lambda}{\sqrt{n}} .$$