

00102721: Advanced Theory of Statistics II Homework 2

Due: April 28, 2021

1. Let $Z \sim N(0, \sigma^2)$. Show that

$$\sup_{t>0} \{P(Z \geq t)e^{t^2/(2\sigma^2)}\} = \frac{1}{2}.$$

2. Exercise 2.3 of Wainwright
3. Exercise 2.5 of Wainwright
4. Exercise 2.9 of Wainwright
5. Exercise 2.14 of Wainwright
6. Exercise 2.18 of Wainwright
7. Exercise 2.22 of Wainwright
8. Exercise 3.13 of Wainwright
9. Exercise 3.16 of Wainwright
10. Exercise 6.4 of Wainwright
11. Exercise 6.8 of Wainwright
12. Exercise 6.10 of Wainwright