

# MATH 1500, Homework 16

Due date: Wed, 17 March.

1. Page 559 #11-16 [be brief]
2. Page 559 #19, 20
3. Page 559 # 21, 22
4. Page 560, 41, 42
5. Page 560, 45
6. Page 560, #6 ( $e$  is irrational)
7. (a) Show that the series

$$\sum_0^{\infty} \frac{n^n}{n!} x^n$$

has the radius of convergence  $e^{-1}$ .

- (b) [Bonus] Show that the series

$$\sum_0^{\infty} \frac{n^n}{n!} (-1)^n \exp(-n)$$

converges, but the series

$$\sum_0^{\infty} \frac{n^n}{n!} \exp(-n)$$

diverges.