Math 450 Winter 2017

Homework #2

(0) Read 21.1 - 21.3 and 17.1-17.3

(1) Exercises 4.2 Questions 1e, 1d, 1h, 1i, 1j

(2) Find the singular points of the rational functions given in Question 2b, 2e, 2f of Exercise 4.2. Find the interval of convergence and radius of convergence at the specified points. Hint: You can use the fact we mentioned about the rational functions instead of calculating R from the formula. Read the paragraph preceding Example 5.

(3) Exercises 4.2 Questions 3a, 3c, 3h

(4) Exercises 4.2 Question 5.

(5) Exercises 4.2 Question 7g, 7h. Hint: To show LI use the theorem about Wronskian from Lecture 2.

(6) Exercise 4.2 Question 9. Recall that in class we solved Airy equation using power series thus you don't need to derive power series solution. You need to verify the given solution is the general solution.

(7) (You don't need to return this) Exercises 4.2 Question 4 parts from (a) to (c)

(8) (You don't need to return this) Exercises 4.2 Question 10 parts from (a) to (c)