

Please read the following instructions carefully:

- There are **two** problems.
- The point distribution is given in the table below.
- This is a group quiz. Feel free to discuss the problems with your teammates. **You must, however, write and turn in your own work.**

Question:	1	2	Total
Points:	5	5	10

1. (5 points) Determine whether any **TWO** of the following series converge or diverge:

$$\sum_{n=1}^{\infty} \frac{\ln n}{n^3} \quad \text{OR} \quad \sum_{n=0}^{\infty} \frac{n(n+1)2^n}{3^n} \quad \text{OR} \quad \sum_{n=1}^{\infty} \frac{(\ln n)^n}{n^n}$$

2. (5 points) Find the radius of convergence of the power series:

$$\sum_{n=0}^{\infty} \frac{nx^n}{2^n(n+1)}$$

**NOTE:** Due to limited time available during the quiz, I have asked you to solve only a limited number of problems. But please try and solve all problems either during the quiz or after solving the required number of problems during the quiz. All such problems are fair game on the exam on Friday!