Quiz 12 **Time:10min**

Choose 2 of the following 3 problems

1. Decide whether the following series is divergent, absolutely converegent, or conditionally converegent:

$$\sum_{n=1}^{\infty}(-1)^{n+1}\frac{n}{10n+1}.$$

2. Decide whether the following series is divergent, absolutely converegent, or conditionally converegent:

$$\sum_{n=1}^{\infty}(-1)^{n+1}\frac{n^2}{e^n}.$$

3. Find the convergence set of the power series

$$1 - x + \frac{x^2}{2} - \frac{x^3}{3} + \frac{x^4}{4} + \dots$$

(You should find the radius of convergence, and also check the endpoints if there are any.)

LATEX $\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\mathcal{MG}$