MA121, Homework #6

due Thursday, Feb. 19 in class

1. Test each of the following series for convergence:

$$\sum_{n=1}^{\infty} \frac{1}{\sqrt{n+1}}, \qquad \sum_{n=1}^{\infty} \frac{n}{2^n}, \qquad \sum_{n=1}^{\infty} \frac{n}{n^2+2^n}, \qquad \sum_{n=1}^{\infty} \left(1-\frac{1}{n^2}\right)^n.$$

2. Test each of the following series for convergence:

$$\sum_{n=1}^{\infty} \frac{2^n}{n!}, \qquad \sum_{n=1}^{\infty} \frac{1}{n} \cdot \log\left(1 + \frac{1}{n}\right), \qquad \sum_{n=1}^{\infty} \frac{1}{n^n}, \qquad \sum_{n=1}^{\infty} \frac{(-1)^n}{n}.$$

- You are going to work on these problems during your Friday tutorials.
- When writing up solutions, write legibly and coherently. Use words, not just symbols.
- Write both your name and your tutor's name on the first page of your homework.
- Your tutor's name is Thomas, if you are a TP student; otherwise, it is Pete.
- Your solutions may use any of the results stated in class (but nothing else).
- NO LATE HOMEWORK WILL BE ACCEPTED.