Take Home Quiz

Instructions: Write the solutions to the following problems on your own paper- NEATNESS COUNTS! You may use your textbook, our class notes, and you may work together. If you work in a group, be sure everyone knows how the solution works!

As you go through these problems, think about how you are going about solving them- put together a mental checklist for yourself.

The solutions are due on **Monday, May 5th, BEFORE class.**

Test the series for convergence or divergence. If the series converges, say whether it is absolute or conditional. Be specific about your reasons!

1. $\displaystyle\sum_{n=1}^{\infty}(-1)^n\frac{n-1}{n^2+n}$
2. $\displaystyle\sum_{n=1}^{\infty}(-1)^n\frac{10^n}{n!}$
3. $\displaystyle\sum_{n=1}^{\infty}\frac{n!}{2\cdot 5\cdot 8\cdots(3n+2)}$
4. $\displaystyle\sum_{n=1}^{\infty}n^2\mathrm{e}^{-n^3}$
5. $\displaystyle\sum_{n=1}^{\infty}\frac{\sqrt{n^2-1}}{n^3+2n^2+5}$
6. $\displaystyle\sum_{n=1}^{\infty}\frac{(2n)^n}{n^{2n}}$
7. $\displaystyle\sum_{n=2}^{\infty}\frac{(-1)^{n-1}}{\sqrt{n}-1}$