Take-home Quiz 5   **Calc 2**   **Due 3/28/22**

3 points each, plus 5 points if you can do them all without using the same test more than once. Open book, open notes, feel free to collaborate with anyone, but try to make sure you understand what you turn in well. **Give good justifications for your conclusions!**

1. Determine whether the series $\displaystyle\sum_{n=2}^{\infty} \frac{(-1)^n}{\ln n}$ converges or diverges.

2. Determine whether the series $\displaystyle\sum_{n=2}^{\infty} \frac{3}{n \ln n}$ converges or diverges.

3. Determine whether the series $\displaystyle\sum_{n=1}^{\infty} \frac{2 + (-1)^n}{n \sqrt{n}}$ converges or diverges.

4. Determine whether the series $\displaystyle\sum_{n=0}^{\infty} \frac{(0.5)^n}{n!}$ converges or diverges.

5. Determine whether the series $\displaystyle\sum_{n=0}^{\infty} \frac{5}{2 + n \sqrt{n}}$ converges or diverges