

1. [5pts] Determine whether the series $\sum_{n=1}^{\infty} \frac{\ln(\sqrt{n})}{n}$ is convergent or divergent.

2. [5pts] Determine whether the series $\sum_{n=0}^{\infty} \frac{(-1)^n(n+1)3^n}{2^{2n+1}}$ is conditionally convergent, absolutely convergent, or divergent.