1.) (20 pts.) Determine if the following series converges conditionally, converges absolutely, or diverges. Briefly explain and name the test(s) that you are using.

$$\sum_{n=3}^{\infty} (-1)^{n+1} \frac{\ln n}{n}$$

2.) (20 pts.) Use the absolute ratio test to determine the interval of convergence. Check endpoints too.

$$\sum_{n=1}^{\infty} (-1)^n \frac{(x-1)^n}{\sqrt{n}}$$