Worksheet #8

(1) $\sum_{n=1}^{\infty}(-1)^n \frac{1}{\sqrt{n}}$
Also determine which partial sum is accurate to 0.01.

(2) Does $\sum_{n=1}^{\infty} \frac{\ln n}{n}$ converge or diverge?

(3) Does $\sum_{n=1}^{\infty} \frac{n}{n^2+1}$ converge or diverge?

(4) Does $\sum_{n=1}^{\infty} \left(-\frac{3}{4}\right)^n$ converge or diverge?

Classify the series as absolutely convergent, conditionally convergent, or divergent.

(1) $\sum_{n=1}^{\infty}(-1)^{n+1} \frac{n}{10n+1}$

(2) $\sum_{n=1}^{\infty}(-1)^{n+1} \frac{1}{5n}$

(3) $\displaystyle\sum_{n=1}^{\infty}(-1)^{n+1}\frac{n^4}{e^n}$

(4) $\displaystyle\sum_{n=1}^{\infty}(-1)^{n+1}\frac{\cos n}{n^2}$