Math 142 – Calculus 2 Name__________________

Section 10.6 Video Worksheet

Alternating Series, Absolute and Conditional Convergences

Alternating Series Test –

Proof:

Definition of Absolutely Convergent

Definition of Conditional Convergence

Absolute Convergence Test –

Proof.

Alternating p – series

Ex. $\sum_{n=1}^{\infty} (-1)^{n+1} \frac{1}{n^{3/2}}$

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

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

If the alternating series $\sum_{n=1}^{\infty} (-1)^{n+1} u_n$ satisfies the alternating series test then

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

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

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

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

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

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