DATE: _____

9.5 Testing Convergence at Endpoints (continued)

2 Types of Convergence

① Absolute convergence: If $\sum|a_n|$ converges, then $\sum a_n$ _____

Example:

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

② Conditional convergence: If $\sum|a_n|$ diverges but $\sum a_n$ converges,

then $\sum a_n$ _____

Example:

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

Determine if the series converges absolutely, converges conditionally, or diverges.

Example 1

$$\sum_{n=1}^{\infty} (-1)^n n^2 \left(\frac{2}{3}\right)^n$$

Example 2

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