10.9 Absolute or Conditional Convergence

Calculus Name: _____ **CA #1**

1. For what values of x is the series $\sum_{n=0}^{\infty}(-1)^n(5x+1)^n$ absolutely convergent?

2. For what values of x is the series $\sum_{n=1}^{\infty}\frac{(5x-2)^n}{n}$ conditionally convergent?

A. $x > \frac{3}{5}$ B. $x = \frac{3}{5}$ C. $x = \frac{1}{5}$ D. $x < \frac{1}{5}$

3. Which of the following statements is true about the series $\sum_{n=1}^{\infty}\frac{(-1)^{n+1}}{n^2\sqrt{n}}$.

A. The series converges conditionally.

B. The series converges absolutely.

C. The series converges but neither conditionally nor absolutely.

D. The series diverges.

4. Determine whether the series $\sum_{n=1}^{\infty}\frac{(-1)^n}{n+5}$ converges absolutely, converges conditionally, or diverges.

5. Determine whether the series $\sum_{n=1}^{\infty} \frac{(-1)^{n+1}}{(n+1)!}$ converges absolutely, converges conditionally, or diverges.

Answers to 10.9 CA #1

1. $-\frac{2}{5} < x < 0$	2. C	3. B	4. Converges Conditionally	5. Converges Absolutely