Name:_____

Math 121 Self-Assessment Quiz #7 October 28, 2022

• Please see the course webpage for the answer key.

1. In each case determine whether the given series is **absolutely convergent**, **conditionally convergent**, or **diverges**. Name any convergence test(s) you use, and justify all of your work.

a. $\displaystyle\sum_{n=2}^{\infty} (-1)^n \, \frac{n}{n^2-1}$

b. $\displaystyle\sum_{n=1}^{\infty} (-1)^n \, \frac{n^3 \, (3n)! \, \ln n}{(n!)^4 \, 2^{4n} \, n^n}$

c. $\displaystyle\sum_{n=1}^{\infty} (-1)^n \, \frac{3n^5+6}{n^9+5\sqrt{n}+9}$

d. $\displaystyle\sum_{n=1}^{\infty} \frac{7+n^2}{5n^2-n+14}$