Name: _____

Math 252 Calculus II (Bueler) Wednesday 18 April 2018

Quiz #11

In class. 25 minutes. No textbook or notes or calculator. 30 points total.

1. Do the series converge or diverge? State what test is being applied, and show your work.

(a) (*5 pts*)

$$\sum_{n=1}^{\infty}(-1)^{n+1}\frac{n^2}{n^3+4}$$

(b) (*5 pts*)

$$\sum_{n=1}^{\infty}\frac{n\cos(\pi n)}{3^n}$$

2. (*5 pts*) Is the 50th partial sum s_{50} of the alternating series

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

an overestimate or an underestimate of the total sum? Explain briefly.

3. Use any test to determine whether the series is *absolutely convergent*, *conditionally convergent*, or *divergent*. State what test is being applied, and show your work.

(a) (*5 pts*)

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

(b) (*5 pts*)

$$\sum_{n=0}^{\infty} \left(\frac{2n^2+1}{n^2+1} \right)^n$$

(c) (*5 pts*)

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