

NAME: _____

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Quiz 1 - MAC 2312, Spring 2015

1. (a) (2 pts) Is the sequence $a_n = (-1)^n \frac{n}{2n+1}$ bounded? Answer and briefly justify.

(b) (2 pts) Is the sequence $a_n = (-1)^n \frac{n}{2n+1}$ convergent? Answer and briefly justify.

2. (3 pts) Find the exact value of the sum $1 + 4 + 7 + 10 + 13 + \dots + 301$.

3. (3 pts) Determine if $\sum_{k=2}^{\infty} \left(\frac{1}{k-1} - \frac{1}{k+1} \right)$ converges and if so find its limit.