Math 102 Quiz# 5 a	10	Name: Serial No.:

1. If $a_1 = 1$ and $a_{n+1} = 3 - \frac{1}{a_n}$ for $n \geq 1$. Find the limit of the sequence if it converges.

2. Determine whether the series is convergent or divergent, if it converges find the sum.

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

3. Determine whether the series is convergent or divergent

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