Math 152 - Comparison Test   Name: _____

1. Use the comparison test to determine if the following series converge or diverge

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

(b) $\displaystyle\sum_{n=1}^{\infty} \frac{1}{n^{3/2} + 1}$

(c) $\displaystyle\sum_{n=9}^{\infty} \frac{n}{n^{4/3} - 2}$

(d) $\displaystyle\sum_{n=1}^{\infty} \frac{1}{(n+1)!}$

(e) $\displaystyle\sum_{n=1}^{\infty} \frac{\cos^4(n)}{n^5 + 1}$

(f) $\displaystyle\sum_{k=1}^{\infty} \frac{\tan^{-1}(k)}{k^2}$

(g) $\displaystyle\sum_{k=1}^{\infty} \frac{k^3 + 5^k}{3^k - 1}$