QUIZ 8 - MATH 152   Friday, November 1
YOUR NAME: _____   George Voutsadakis

Read each problem **very carefully** before starting to solve it and do only what is asked. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

Series (General)	Series (Positive Terms)
Telescoping Series	Integral Test
Linearity	p-Series
Geometric Series	Comparison Test
Divergence Test	Limit Comparison Test

1. [12 points] Based on the criteria listed above decide the convergence or divergence of the following series. Justify each part showing all details. If you use geometric series and the series converges, then find also the sum.

(a) $\displaystyle\sum_{n=1}^{\infty} \cos\left(\frac{\pi}{n}\right)$

(b) $\displaystyle\sum_{n=1}^{\infty} \frac{5^{n+1} - 2 \cdot 3^n}{7^n}$

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

(d) $\displaystyle\sum_{n=1}^{\infty} \frac{n^2 + 5}{n^3 - 2}$