Convergence Tests Worksheet I
Show the convergence or divergence of the serie by using any test.
Cite any test used.

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

2) $\sum_{n=1}^{\infty} \frac{1}{n^2+n}$

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

4) $\sum_{n=1}^{\infty} n^{1.7}$

5) $\sum_{n=1}^{\infty} \frac{n}{e^n}$

6) $\sum_{n=1}^{\infty} \tan\left(\frac{1}{n}\right)$

7) $\sum_{n=1}^{\infty} \frac{3^n}{5^n+n}$

8) $\sum_{n=1}^{\infty} \frac{2^n}{(2n+1)!}$

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

10) $\sum_{n=2}^{\infty} \frac{2}{n(\ln(n))^3}$

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

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

13) $\sum_{n=1}^{\infty} \frac{1}{e^{2n}}$