Quiz #9

Determine whether the following series converge or diverge. Make sure you state your reasoning and all your work.

a) $\sum_{n=1}^{\infty} \frac{1+4n^2}{n^2+n+1}$

b) $\sum_{n=0}^{\infty} \frac{4+2^n}{3^n}$

c) $\sum_{n=0}^{\infty} \frac{n^2}{3^n}$

d) $\sum_{n=0}^{\infty} \frac{10^n}{n!}$

e) $\sum_{n=0}^{\infty} \frac{\sqrt{n}}{1+n^2}$

f) $\sum_{n=3}^{\infty} \frac{\ln(\ln(n))}{n \ln(n)}$ (note that nothing cancels)