Corso di Analisi Matematica

Determinare la convergenza delle seguenti serie

1. $\sum_{n=1}^{\infty}(10+\cos n)^{\frac{1}{n}} \arctan(\frac{1}{n}) \cdot \tan(\frac{1}{n})$

2. $\sum_{n=1}^{\infty} \cos\left(\frac{n+3}{n+5}\right) \cdot \sin\left(\frac{n+5}{2^n}\right) \cdot \left(\frac{n+1}{n}\right)^n$

3. $\sum_{n=1}^{\infty} \arctan\left(\frac{n^2+n+9}{2\sqrt{n+5}}\right) \cdot \arctan\left(\frac{2\sqrt{n+5}}{n^2+n+9}\right)$

4. $\sum_{n=1}^{\infty} \sqrt[n]{n^3+n+20} \cdot \arctan\left(\frac{n+19}{n^3+n+20}\right)$

5. $\sum_{n=1}^{\infty} \sqrt[n]{n^3+n+20} \cdot \arctan\left(\frac{n+19}{n^3+n+20}\right)$

6. $\sum_{n=1}^{\infty} \cos(\frac{2^n+n^2}{3^n+n^3}) \cdot \sin(\frac{2^n+n^3}{3^n+n^2})$