Esercitazione tutoraggio diffuso Analisi 1 (Settimana 11- 15 novembre)

1. $\sum_{n=1}^{+\infty} \frac{n^2-2n^3}{3n^{9/2}-n^4}$ **R. converge**

2. $\sum_{n=1}^{+\infty} \frac{3^n}{n5^n+n^{25}}$ **R. converge**

3. $\sum_{n=1}^{+\infty} \frac{\log(1+2^n)}{\sqrt[4]{n+16n^5}}$ **R. diverge**

4. $\sum_{n=1}^{+\infty} \frac{n^{4/3}+\cos n}{n^{7/2}+2\arctan n}$ **R. converge**

5. $\sum_{n=1}^{+\infty} \frac{\sqrt[4]{1+\frac{1}{n^2}}-1}{\sqrt{n}\log\left(1+\frac{1}{n^3}\right)}$ **R. diverge**

6. $\sum_{n=1}^{+\infty} 2^{-n}\sin\frac{1}{n}$ **R. converge**

7. $\sum_{n=0}^{+\infty} \frac{n^n}{n!3^n}$ **R. converge**

8. $\sum_{n=1}^{+\infty} \frac{\log(1+n^n)}{n^2}$ **R. diverge**

9. $\sum_{n=1}^{+\infty} (-1)^n \sin\frac{1}{n}$ **R. converge semplicemente**

10. $\sum_{n=1}^{+\infty} \sin\left[(2n+1)\frac{\pi}{2}\right]\sin(n+5)e^{-3n}$ **R. converge assolutamente**

11. $\sum_{n=2}^{+\infty} \frac{\sin n}{n^2\log n}$ **R. converge assolutamente**

12. $\sum_{n=0}^{+\infty} \frac{2^n+2^{-n}}{n!}$ **R. converge**

13. $\sum_{n=1}^{+\infty} \log(2\sqrt[n]{n}-1)$ **R. diverge**

14. $\sum_{n=1}^{+\infty} \left(1+\sin\left(\frac{2}{n+1}\right)\right)^{\log 2^n}$ **R. diverge**

15. $\sum_{n=1}^{+\infty} \left(\sqrt{1+\frac{1}{n^\alpha}}-1\right)$ **R. converge per** $\alpha > 1$

16. $\sum_{n=0}^{+\infty} \frac{x^{2n}}{\sqrt{n}+x^{4n}}$ **R. converge per** $x \neq \pm 1$

17. $\sum_{n=1}^{+\infty} e^{\alpha n}\log\left(1+\frac{1}{n^2}\right)$ **R. converge per** $\alpha \leq 0$

18. $\sum_{n=1}^{+\infty} (e^{n^\alpha}-1)n$ **R. converge per** $\alpha < -2$

19. $\sum_{n=1}^{+\infty} \frac{(e^x-3)^n}{n^\pi+17}$ **R. converge per** $\log 2 \leq x \leq \log 4$

20. $\sum_{n=1}^{+\infty} \frac{\cos(n\pi)}{n+\max(\alpha-1,0)(\sin n+2n^\alpha)}$ **R. converge assolutamente per** $\alpha > 1$**, converge semplicemente per** $\alpha \leq 1$**.**