**Math 31 – Workshop #23**

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Determine whether the following series converge or diverge.

1. $\displaystyle\sum_{n=1}^{\infty} e^{-n}$

2. $\displaystyle\sum_{n=1}^{\infty} \frac{1}{n^{1.01}}$

3. $\displaystyle\sum_{n=1}^{\infty} \frac{n^2}{n^3+4}$

4. $\displaystyle\sum_{n=1}^{\infty} \frac{\cos\left(\frac{\pi}{n}\right)}{n^2}$

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

6. $\displaystyle\sum_{n=1}^{\infty} \frac{1}{(\ln 3)^n}$

7. $\displaystyle\sum_{n=1}^{\infty} \frac{\pi^n}{e^{2n}}$

8. $\displaystyle\sum_{n=3}^{\infty} \frac{1}{n\sqrt{\ln n}}$

9. $\displaystyle\sum_{n=1}^{\infty} \cos\left(\frac{\pi n}{2}\right)$

10. $\displaystyle\sum_{n=1}^{\infty} \frac{2^n+5^n}{3^n+4^n}$

11. $\displaystyle\sum_{n=1}^{\infty} \frac{\sqrt{n^4+1}}{\sqrt{n}(n^2+\ln n)}$