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#121260

Activity 6.1

MATH 1360-80
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1. $\sum_{n=1}^{\infty} \frac{(-1)^{n+1}}{2n^2}$
2. $\sum_{n=1}^{\infty} \frac{(-1)^{n}}{\sqrt[5]{n}}$
3. $\sum_{n=1}^{\infty} \frac{4n^2+3n+2}{2n^2+n+1}$

1) $\sum_{n=1}^{\infty} \frac{(-1)^{n+1}}{2n^2} = \sum_{n=1}^{\infty} \left|\frac{(-1)^{n+1}}{2n^2}\right| = \sum_{n=1}^{\infty} \frac{1}{n^2} = \frac{1}{2}\sum_{n=1}^{\infty} \frac{1}{n^2}$ $\quad p=2>1$

General $a_n = \frac{(-1)^{n+1}}{2n^2}$

Valor absoluto $|a_n| = \frac{1}{2n^2}$

Absolutamente convergente porque es una variante de la serie.

2) $\sum_{n=1}^{\infty} \frac{(-1)^n}{\sqrt[5]{n}} \quad \sum_{n=1}^{\infty} \left|\frac{(-1)^n}{\sqrt[5]{n}}\right| = \sum_{n=1}^{\infty} \frac{1}{\sqrt[5]{n}} \quad p=\frac{1}{5}<1$

$\lim_{n\to\infty} \frac{1}{\sqrt[5]{n}} = 0$

Converte Condicional

3) $\sum_{n=1}^{\infty} \frac{4n^2+3n+2}{2n^2+n+1} = \frac{4n^2}{2n^2+n+1} = \frac{4n^2}{2n^2} \to \frac{4}{2}$

Diverge

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