Pg 1789 es 149, 150, 153, 155

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

$\lim_{n\to+\infty} \frac{n^2}{n+2} = \frac{n^{\cancel{2}}}{\cancel{n}(1+\frac{2}{n})} = n = +\infty$ non converge

150) $\sum_{n=1}^{+\infty} \left(2 - \frac{2n^2+1}{n^2+n}\right)$

$\lim_{n\to+\infty} \left(2 - \frac{\cancel{n^2}(2+\frac{1}{n^2})}{\cancel{n^2}(1+\frac{1}{n})}\right) = \lim_{n\to+\infty} (2-2) = 0$ potrebbe convergere

153) $\sum_{n=1}^{+\infty} \frac{5n}{\sqrt{n^2+1}}$

$\lim_{n\to+\infty} \frac{5n}{\sqrt{n^2+1}} = \lim_{n\to+\infty} \frac{5n}{\sqrt{n^2(1+\frac{1}{n})}} = \lim_{n\to+\infty} \frac{5\cancel{n}}{\cancel{n}\sqrt{1+\frac{1}{n}}} = 5$ non converge

155) $\sum_{n=1}^{+\infty} \left(e^{\frac{1}{n}} - 1\right)$

$\lim_{n\to+\infty} \left(e^{\frac{1}{n}} - 1\right) = \lim_{n\to+\infty} (+1-1) = 0$ ~~non~~ potrebbe convergere

Pg 1788 es 160-161-164-165-170-171

160) $\sum_{n=0}^{+\infty} \frac{1}{3^{2n}}$; $\sum_{n=0}^{+\infty} (-n)^2$;

161) $\sum_{n=0}^{+\infty} \frac{3n^2+1}{1+n^2}$

$$\lim_{n\to+\infty} \frac{3n^2+1}{1+n^2} = \lim_{n\to+\infty} \frac{\cancel{n^2}\left(3+\overbrace{\frac{1}{n^2}}^{0}\right)}{\cancel{n^2}\left(\underbrace{\frac{1}{n^2}}_{0}+1\right)} = 3$$ diverge a $+\infty$

164) $a = \sum_{n=1}^{+\infty} \left(\frac{1}{5}\right)^n$ $\quad b = \sum_{n=1}^{+\infty} \left(\frac{1}{5n}\right)^n$

$\hookrightarrow \frac{1}{5}, \left(\frac{1}{5}\right)^2, \left(\frac{1}{5}\right)^3 \ldots$ $\quad \hookrightarrow \frac{1}{5}, \left(\frac{1}{10}\right)^2, \left(\frac{1}{15}\right)^3 \ldots$

$a > b$ $\quad b$ è minorante di a

165) $a = \sum_{n=0}^{+\infty} \frac{1}{2^n+3}$ $\quad b = \sum_{n=0}^{+\infty} \frac{1}{2^n}$

$\hookrightarrow \frac{1}{4}, \frac{1}{5}, \frac{1}{7} \ldots$ $\quad \hookrightarrow 1, \frac{1}{2}, \frac{1}{4} \ldots$

$b > a$ $\quad a$ è minorante di b

170) $a = \sum_{n=1}^{+\infty} \frac{5}{n+4^n} = 1, \frac{5}{18}, \frac{5}{35}, \ldots$ / $b = \sum_{n=1}^{+\infty} \frac{5}{4^n} = \frac{5}{4}, \frac{5}{16}, \frac{5}{32} \ldots$

$b > a$ $\quad b$ è maggiorante di a

171) $a = \sum_{n=1}^{+\infty} \frac{1}{3n} = \frac{1}{3}, \frac{1}{6}, \frac{1}{9} \ldots$ / $b = \sum_{n=1}^{+\infty} \frac{n^2+1}{3n} = \frac{2}{3}, \frac{5}{6}, \frac{10}{9}, \ldots$

$b > a$ $\quad b$ è maggiorante di a