

1. Lista / Repisodio / unghezerese n/216/15.
 2. Limite / di confine - Ambrosiana

LP

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$$\log \frac{x^2 + 2}{x + 3 \operatorname{sen} x}$$

$$\log \left(\frac{x^2 \left(1 + \frac{2}{x^2}\right)}{x \left(1 + 3 \frac{\operatorname{sen} x}{x}\right)} \right)$$

$$\frac{x}{x^2}$$

$$\log \left(\frac{1 + \frac{2}{x^2}}{1 + 3 \frac{\operatorname{sen} x}{x}} \right)$$

$$\lim_{x \rightarrow +\infty} (\operatorname{sen} h x) \frac{3x^2 + 5x + 1}{2x^3 - x + 5} =$$

$$= \lim_{x \rightarrow +\infty} e^{\frac{3x^2 + 5x + 1}{2x^3 - x + 5} \cdot \log \operatorname{sen} h x}$$

$$= \lim_{x \rightarrow +\infty} e^{\frac{3x^2 + 5x + 1}{2x^3 - x + 5} \log \frac{e^x + e^{-x}}{2}}$$

$$= \lim_{x \rightarrow +\infty} e^{\frac{3x^2 + 5x + 1}{2x^3 - x + 5} \log e^x \left(\frac{1 + e^{-2x}}{2} \right)}$$

$$= \lim_{x \rightarrow +\infty} e^{\frac{3x^2 + 5x + 1}{2x^3 - x + 5} \cdot x \cdot \frac{3x^2 + 5x + 1}{2x^3 - x + 5} \log \left(\frac{1 - e^{-2x}}{2} \right)}$$

$$= e^{\frac{3}{2}} e^0 = e^{\frac{3}{2}}$$

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