# 132

$$\lim_{x\to+\infty} \frac{x^3+x+2}{x^2+x-4} \log \frac{2x^3+3x-4}{2x^3-x^2+1} =$$

$$\frac{2x^3+3x-4}{2x^3-x^2+1} - 1 + 1 = \frac{2x^3+3x-4-2x^3+x^2-1}{2x^3-x^2+1} + 1 =$$

$$= \frac{x^2+3x-5}{2x^3-x^2+1} + 1$$

$$= \lim_{x\to+\infty} \frac{x^3+x+2}{x^2+x-4} \cdot \log\left(1 + \frac{1}{\frac{2x^3-x^2+1}{x^2+3x-5}}\right) =$$

$$= \lim_{x\to+\infty} \frac{x^3+x+2}{x^2+x-4} \cdot \frac{x^2+3x-5}{2x^3-x^2+1} \cdot \frac{2x^3-x^2+1}{x^2+3x-5} \log\left(1 + \frac{1}{\frac{2x^3-x^2+1}{x^2+3x-5}}\right) =$$

$$= \lim_{x\to+\infty} \frac{x^5+\dots}{2x^5+\dots} \lim_{y\to\infty} y \log\left(1+\frac{1}{y}\right) = \frac{1}{e}$$

con $y = \frac{2x^3-x^2+1}{x^2+3x-5}$