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(145)

$$\lim_{x\to+\infty} \frac{6x^2+x+2\operatorname{sen}x}{x-4+\operatorname{arctg}x}\left(\sqrt[3]{\frac{3x^3+7x-1}{3x^3-x^2+2}}-1\right)=$$

$$=\lim_{x\to+\infty} \frac{6x^2+x+2\operatorname{sen}x}{x-4+\operatorname{arctg}x}\left(\sqrt[3]{1+\left(\frac{3x^3+7x-1}{3x^3-x^2+2}-1\right)}-1\right)=$$

$$=\lim_{x\to+\infty} \frac{6x^2+x+2\operatorname{sen}x}{x-4+\operatorname{arctg}x}\left(\sqrt[3]{1+\frac{3x^3+7x-1-3x^3+x^2-2}{3x^3-x^2+2}}-1\right)$$

$$=\lim_{x\to+\infty} \frac{6x^2+x+2\operatorname{sen}x}{x-4+\operatorname{arctg}x}\left(\sqrt[3]{1+\frac{x^2+7x-3}{3x^3-x^2+2}}-1\right)$$

$$=\lim_{x\to+\infty} \frac{6x^2+x+2\operatorname{sen}x}{x-4+\operatorname{arctg}x}\cdot\frac{\left(\sqrt[3]{1+\frac{x^2+7x-3}{3x^3-x^2+2}}-1\right)}{\frac{x^2+7x-3}{3x^3-x^2+2}}=$$

$$=\frac{6}{4}\cdot\frac{1}{3}=\frac{1}{2}$$