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$$\lim_{x \rightarrow -\infty} \frac{x^2 + x + \cos^2 x}{\sqrt{x^6 + 3x^2 + 1}} \log(e^{-2x} + \sin 5x + 3) =$$

$$= \lim_{x \rightarrow -\infty} \frac{x^2 + x + \cos^2 x}{\sqrt{x^6 + 3x^2 + 1}} \left[-2x + \log(1 + e^{2x} \sin 5x + 3e^{2x}) \right] =$$

$$= \lim_{x \rightarrow -\infty} \frac{-2x^3 + 2x^2 - 2x \cos^2 x}{|x^3| \sqrt{1 + \frac{3}{x^4} + \frac{1}{x^6}}} + \frac{x^2 + x + \cos^2 x}{\sqrt{x^6 + 3x^2 + 1}} \log(1 + e^{2x} \sin 5x + 3e^{2x}) =$$

= 2