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1. Varianta 2.2

$$\lim_{x \to -\infty} \sqrt[6]{x^6 - 3x^5 + 2} + x =$$

$$= \lim_{y \to +\infty} \sqrt[6]{y^6 + 3y^5 + 2} - y =$$

$$a^6 - b^6 = (a^3)^2 - (b^3)^2 = (a^3 - b^3)(a^3 + b^3) =$$

$$= (a - b)(a^2 + ab + b^2)(a^3 + b^3)$$

$$= \lim_{y \to +\infty} \frac{y^6 + 3y^5 + 2 - y^6}{\left(\sqrt[3]{y^6 + 3y^5 + 2} + y \sqrt[6]{y^6 + 3y^5 + 2} + y^2\right)\left(\sqrt{y^6 + 3y^5 + 2} + y^3\right)} =$$

$$= \lim_{y \to +\infty} \frac{y^5\left(3 + \frac{2}{y^5}\right)}{\left(y^2 \sqrt[3]{1 + \frac{3}{y} + \frac{2}{y^6}} + y^2 \sqrt[6]{1 + \frac{3}{y} + \frac{2}{y^6}} + y^2\right)\left(y^3 \sqrt{1 + \frac{3}{y} + \frac{2}{y^6}} + y^3\right)}$$

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