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$$\lim_{x\to+\infty} \sqrt[4]{x^4+3x^3+x^2-x+2} - x =$$

$$= \lim_{x\to+\infty} \frac{\sqrt{x^4+3x^3+x^2-x+2} - x^2}{\sqrt[4]{x^4+3x^3+x^2+x+2} + x} =$$

$$= \lim_{x\to+\infty} \frac{\sqrt{x^4+3x^3+x^2-x+2} - x^4}{\left(\sqrt[4]{x^4+3x^3+x^2-x+2} + x\right)\left(\sqrt{x^4+3x^3+x^2-x+2} + x^2\right)} =$$

$$= \frac{x^3\left(3+\frac{1}{x}-\frac{1}{x^2}+\frac{2}{x^3}\right)}{x\left(\sqrt[4]{1+\frac{3}{x}+\frac{1}{x^2}-\frac{1}{x^3}+\frac{2}{x^4}}+1\right) x^2\left(\sqrt{1+\frac{3}{x}+\frac{1}{x^2}-\frac{1}{x^3}+\frac{2}{x^4}}+1\right)}$$

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