$= \lim_{n \to \infty}$

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VI

$$x_n = \sqrt[3]{n^3+2n^2} - n$$

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

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

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

$\to 1 \qquad \to 1$

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