**Příklad 1.** *Vypočtěte:*

- $\lim \frac{\sqrt{n^3}-n^2+3n}{12n-3\sqrt{n}}$,

- $\lim \left( \sqrt{6n^2+1} - \sqrt{5n^2+n} \right)$,

- $\lim \left( \sqrt{3n^2+3} - \sqrt{3n^2+1} \right)$,

- $\lim \sin \frac{n\pi}{2}$,

- $\lim \left( \frac{3n+2}{3n+1} \right)^n$,

- $\lim \sqrt[n]{2n^2+3n+2012}$,

- $\lim \left( n^2 + \sin(n-13) \right)$,

- $\lim \frac{3^n+(-3)^n}{3\cdot 9^n}$,

- $\lim \frac{(n+3)!}{2(n+2)!+(n-1)!}$,

- $\lim \frac{7^n+5^n-3^n}{7^{n+1}-2^n}$.