

$$\begin{aligned} \sqrt{n^2-1} - \sqrt{n^2+1} \rightsquigarrow 0: \quad \sqrt{n^4+n^2} - \sqrt{n^4-n^2} \rightsquigarrow 1: \quad \sqrt{n^2-2n} - \sqrt{n^2+2n} \rightsquigarrow -2 \\ : \quad \sqrt{4n^2+n} - 2\sqrt{n^2-1} \rightsquigarrow \frac{1}{4} \end{aligned}$$

$$\begin{aligned} \sqrt{n^2-n} - n \rightsquigarrow -\frac{1}{2}: \quad 4n - \sqrt{16n^2+6n-5} \rightsquigarrow -\frac{3}{4}: \quad \sqrt{4n^2+5n-7} - 2n \rightsquigarrow \frac{5}{4}: \quad \sqrt{n^2-1} - n \rightsquigarrow 0 \\ : \quad \sqrt{n^2-n+1} - n \rightsquigarrow -\frac{1}{2}: \quad \sqrt{3n^2+2n-5} - n\sqrt{3} \rightsquigarrow \frac{1}{\sqrt{3}} \end{aligned}$$

$$\sqrt{n+\sqrt{n}} - \sqrt{n-\sqrt{n}} \rightsquigarrow 1$$

$$\frac{n}{\sqrt{n^2+1} + \sqrt{2n^2+1}} \rightsquigarrow \sqrt{2}-1$$

$$\frac{2n-1}{n+\sqrt{n^2+1}} \rightsquigarrow 1$$

$$\frac{\sqrt{n^2+5}-n}{\sqrt{n^2+2}-n} \rightsquigarrow \frac{5}{2}$$

$$\frac{n-3}{\sqrt{n^2+n}-\sqrt{n^2+2}} \rightsquigarrow +\infty$$

$$\frac{1}{\sqrt{9n^2+3n+1}-3n} \rightsquigarrow 2$$

$$\frac{3n^2-\sqrt{n^3+1}}{n^2-2n+4} \rightsquigarrow 3$$

$$(n^3+n)^{1/3} - n \rightsquigarrow 0: \quad (n^3+2n^2)^{1/3} - n \rightsquigarrow \frac{2}{3}: \quad (n^3+2n-1)^{1/3} - n \rightsquigarrow 0: \quad (n^3+5)^{1/3} - n \rightsquigarrow 0$$

$$n \left( (n^3+n)^{1/3} - n \right) \rightsquigarrow \frac{1}{3}$$

$$(n^3-n)^{1/3} - n + 2 \rightsquigarrow 2$$

$$\frac{(n^3+2n)^{1/3} - n}{n} \rightsquigarrow 0: \quad \frac{(n^3-n+1)^{1/3} - n}{n-1} \rightsquigarrow 0$$

$$\frac{n+1}{(9n^3-3n+1)^{1/3}-3n} \rightsquigarrow \frac{1}{9^{1/3}-3}: \quad \frac{5n}{(8n^3+n)^{1/3}-n} \rightsquigarrow 5$$

$$\frac{1}{(8n^3+5n)^{1/3}-2n} \rightsquigarrow +\infty$$

$$\sqrt{n+1} - \sqrt{n} \underset{\mathfrak{b}}{\sim} 0$$

$$\sqrt{n^2 - n} \sqrt{n^2 - 1} \underset{\mathfrak{b}}{\sim} \frac{1}{\sqrt{2}}$$

$$\left(\sqrt{n+1} - \sqrt{n}\right)^{n\mathfrak{c}} \underset{\mathfrak{b}}{\sim} 0$$