

$$\begin{aligned}
& \left(\frac{n+2}{n}\right)^n \rightsquigarrow e^2: \quad \left(1-\frac{2}{n}\right)^n \rightsquigarrow e^{-2}: \quad \left(\frac{n-1}{4+n}\right)^n \rightsquigarrow e^{-5}: \quad \left(\frac{n+2}{n+3}\right)^n \rightsquigarrow e^{-1} \\
& \left(\frac{n-1}{n}\right)^{2n} \rightsquigarrow e^{-2}: \quad \left(1-\frac{3}{n}\right)^{2n} \rightsquigarrow e^{-6}: \quad \left(\frac{n+5}{n}\right)^{2n} \rightsquigarrow e^{10}: \quad \left(1+\frac{4}{n}\right)^{2n} \rightsquigarrow e^8: \quad \left(\frac{n+1}{n-2}\right)^{2n} \rightsquigarrow e^6 \\
& \quad \left(1-\frac{1}{3n}\right)^{4n} \rightsquigarrow e^{-4/3}: \quad \left(1+\frac{3}{n}\right)^{4n} \rightsquigarrow e^{12} \\
& \quad \quad \left(\frac{n-3}{n+2}\right)^{-n} \rightsquigarrow e^5 \\
& \quad \quad \left(\frac{n+2}{n}\right)^{n+1} \rightsquigarrow e^2: \quad \left(\frac{3n-1}{3n+1}\right)^{n+4} \rightsquigarrow e^{-2/3} \\
& \quad \quad \left(1-\frac{3}{n}\right)^n \frac{n}{n^2+1} {}^{5n}\mathfrak{s} \rightsquigarrow 0: \quad \left(1+\frac{1}{n}\right)^n \frac{1}{n} {}^{2n}\mathfrak{s} \rightsquigarrow 0 \\
& \quad \quad \left(1-\frac{2}{n^2}\right)^{5n^2} \rightsquigarrow e^{-10}: \quad \left(\frac{n^2+6}{n^2}\right)^{n^2} \rightsquigarrow e^6: \quad \left(\frac{n^2+1}{n^2-1}\right)^{2n^2} \rightsquigarrow e^4 \\
& \quad \quad \left(\frac{n^2+3}{n^2+1}\right)^{2n^2+5} \rightsquigarrow e^4: \quad \left(\frac{n^2}{n^2-1}\right)^{2n^2+1} \rightsquigarrow e^2: \quad \left(\frac{n^2}{n^2+4}\right)^{3n^2+2} \rightsquigarrow e^{-12} \\
& \quad \quad \quad \left(\frac{n^2+7}{n^2+6}\right)^{n^2+n+3} \rightsquigarrow e \\
& \quad \quad \quad \left(1-\frac{7}{n^3}\right)^{2n^3} \rightsquigarrow e^{-14} \\
& \quad \quad \quad \left(\frac{n^3-3}{n^3+5}\right)^{n^3+5} \rightsquigarrow e^{-8} \\
& \quad \quad \quad \left(\frac{n^4+2}{n^4}\right)^{n^4} \rightsquigarrow e^2 \\
& \quad \quad \left(\frac{n^2-1}{n^2}\right)^{2n} \rightsquigarrow 1: \quad \left(\frac{n^2+2}{n^2-2}\right)^{n/2} \rightsquigarrow 1: \quad \left(1-\frac{4}{n^3}\right)^n \rightsquigarrow 1: \quad \left(\frac{n^3}{n^3+8}\right)^{n^2-5n} \rightsquigarrow 1 \\
& \quad \quad \quad \left(\frac{3n^2-2}{3n^2-1}\right)^{n^3} \rightsquigarrow 0
\end{aligned}$$

$$\left(\frac{n^2+2}{n^2}\right)^{n^2} \frac{3^{2n}-1}{9^{n-1}+1} \sim 9e^2$$