

$$\frac{x^{100} - 1}{x^{1000} - 1} \rightsquigarrow \frac{1}{10}$$

$$\frac{x^e - 1 - x}{x^2} \rightsquigarrow \frac{1}{2}$$

$$\frac{x^{\cancel{e}}}{x-1} \rightsquigarrow -1: \quad \frac{x^3 - 1}{x^{\cancel{e}}} \rightsquigarrow 3: \quad \frac{x^{\cancel{e}}}{x^2 - 1} \rightsquigarrow \frac{1}{2}$$

$$\frac{x^{\cancel{e}}}{x^{\mathfrak{g}}} \rightsquigarrow 0$$

$$\frac{x^2}{x^2 e} \rightsquigarrow 0$$

$$\frac{x - x^{\mathfrak{s}}}{x - x^{\mathfrak{t}}} \rightsquigarrow -\frac{1}{2}$$

$$\frac{x^2}{x^{\cancel{e}}} \rightsquigarrow +\infty: \quad \frac{x^{\cancel{e}^3}}{x} \rightsquigarrow 0: \quad \frac{x^{\cancel{e}}}{\sqrt{x}} \rightsquigarrow 0$$

$$\frac{x^e}{x^{\cancel{e}}} \rightsquigarrow +\infty$$

$$\frac{1 - x^{\mathfrak{s}}}{x^{\mathfrak{c}}} \rightsquigarrow 0$$

$$\frac{x^{\mathfrak{s}} - x}{x^3} \rightsquigarrow -\frac{1}{6}$$

$$\frac{x^{\mathfrak{t}} - x}{x^2} \rightsquigarrow 0$$

$$\frac{x^{\mathfrak{t}} - x^{\mathfrak{s}}}{x - x^{\mathfrak{s}}} \rightsquigarrow$$

$$\frac{1 - 4x^e}{1 + 3x^{\cancel{e}}} \rightsquigarrow -\frac{3}{4}$$

$$\frac{x^{\mathfrak{c}}}{x^{x^{\mathfrak{s}}}} \rightsquigarrow -\frac{1}{2}$$

$$\frac{x^{\mathfrak{c}}}{x^2} \rightsquigarrow -\frac{1}{2}$$

$$\frac{x^e}{x^x} \rightsquigarrow +\infty$$

$$\frac{x^2 \mathbf{e} - 1}{x \mathbf{c} - 1} \rightsquigarrow -2$$

$$\frac{\cancel{2x \mathfrak{s}}}{\cancel{x \mathfrak{s}}} \rightsquigarrow 1$$

$$\frac{\cancel{x^2 + 1}}{\cancel{3x^2 - 1}} \rightsquigarrow 1$$

$$\frac{x + 2x \mathfrak{s}}{x + 3x \mathfrak{s}} \rightsquigarrow \frac{3}{4}; \quad \frac{x^2 + 2x \mathfrak{s}}{x^3 + 3x \mathfrak{s}} \rightsquigarrow \frac{2}{3}$$

$$\frac{\cancel{3x \mathbf{e} - 1}}{\cancel{1 + 2x}} \rightsquigarrow \frac{3}{2}$$

$$\frac{\cancel{3x \mathfrak{t}}}{\cancel{x \mathbf{e} - -x \mathbf{e}}} \rightsquigarrow \frac{3}{2}$$

$$\frac{\cancel{x \mathbf{e} - -3x \mathbf{e}}}{\cancel{1 - 2x \mathbf{c}}} \rightsquigarrow +\infty$$

$$\frac{\cancel{x \mathbf{c}}}{\cancel{x + \pi/2 \mathfrak{s}}} \rightsquigarrow 1$$

$$\frac{\cancel{-2x \mathbf{e} - 2x \mathbf{e}}}{\cancel{x}} \rightsquigarrow -4$$

$$\frac{\cancel{x}}{\sqrt{\cancel{x^2 - 1}}} \rightsquigarrow 0$$

$$\frac{\cancel{x^{2x} \mathfrak{t}}}{\cancel{x \mathbf{c}}} \rightsquigarrow 0$$

$$\frac{\cancel{x \mathfrak{s}/x}}{\cancel{x}} \rightsquigarrow 0$$

$$\boxed{\frac{0}{0} \text{ for } x \rightsquigarrow 0}$$

$$\frac{\cancel{1 + 2x}}{\cancel{x}} \cdot \frac{x^2}{3x \mathbf{c} - 1}; \quad \frac{x - x \mathfrak{s}}{x^2}; \quad \frac{7x \mathbf{e} - 1}{7x} \rightsquigarrow 1; \quad \frac{x \mathbf{c} - 1}{5x \mathbf{e} - 5x - 1} \rightsquigarrow -\frac{1}{25}; \quad \frac{1 - x \mathbf{e}}{1 - x \mathbf{c}}$$

$$\frac{(1 + 4x)^{1/3} - 1}{x} \sim \frac{4}{3}; \quad \frac{\sqrt{1+x}}{x}; \quad \frac{1}{x \mathfrak{s}} - \frac{1}{x}; \quad \frac{1}{x} - \frac{1}{\cancel{x}}$$

$$\boxed{x \rightsquigarrow \infty}$$

$$\left(\frac{x+a}{x+b}\right)^x \sim a^{-b} \mathbf{e}: \quad x \cancel{x}^{1/x} \sim 1: \quad n^{1/n} \sim 1: \quad \left(1 - \frac{1}{x^2}\right)^x \sim 1: \quad \overbrace{x^2+x}^{1/2} - \overbrace{x^2-x}^{1/2} \sim 1$$

$$^{-x} \mathbf{e} x^2 \sim 0: \quad (.001)^{-1/n} \sim 1: \quad \frac{n^{\mathbf{5}}}{n} \sim 0: \quad \underset{x=1/n}{1/n} \mathbf{t} n \stackrel{!}{=} 1: \quad \frac{(x^2+1)^{1/2}}{x}: \quad n^2 2^{-n} \sim 0$$

$$n^2 + 2n - (n^4 + 1)^{1/2} \sim \infty: \quad \left(1 - \frac{3}{n}\right)^{2n} \rightsquigarrow e^{-6}: \quad n^{1/\sqrt{n}} \rightsquigarrow 1$$

$$\boxed{x \rightsquigarrow a}$$

$$x \rightsquigarrow 10 \Rightarrow \frac{x-9}{x-10} \cancel{x} \rightsquigarrow 1: \quad x \rightsquigarrow e \Rightarrow \frac{x-e}{x \cancel{x} - 1} \rightsquigarrow : \quad x \rightsquigarrow 1/2 \Rightarrow \frac{2x - \pi x \mathbf{5}}{4x^2 - 1} \rightsquigarrow \frac{1}{2}$$

$$x \rightsquigarrow \pi/2 \Rightarrow \frac{x^{\mathbf{5}}}{4x \mathbf{c}} \cancel{x} \rightsquigarrow \frac{1}{16}: \quad x \rightsquigarrow e \Rightarrow x \cancel{x}^{1/(x-e)} \rightsquigarrow$$

$$\boxed{x \rightsquigarrow 0+}$$

$$\frac{1 - \sqrt{x} \mathbf{c}}{x \mathbf{5}} \rightsquigarrow 1/2: \quad x^{1+3x} \cancel{x} \rightsquigarrow : \quad \frac{1}{\sqrt{x}} - \frac{1}{x \mathbf{5}} \rightsquigarrow -\infty: \quad x^{\mathbf{5}7} \rightsquigarrow : \quad \frac{1/x \mathbf{e}}{1 - x \cancel{x}} \rightsquigarrow \infty$$

$$^{-1/x} \mathbf{e} x \cancel{x} \rightsquigarrow : \quad x^{\mathbf{5}} \cancel{x} x \text{ why well-def}$$