

$$\underline{\text{Ex 7}}: \lim_{\substack{x \rightarrow 1 \\ x > 1}} \frac{x^2 - 2x + 1}{x^2 - 1} = \frac{1 - 2 + 1}{1 - 1} = \frac{0}{0} = ?$$

$$\underline{\text{Num}}: x^2 - 2x + 1 = (x - 1)^2$$

$$\underline{\text{Den}}: x^2 - 1 = (x + 1)(x - 1)$$

$$\lim_{\substack{x \rightarrow 1 \\ x > 1}} \frac{(x - 1)^2}{(x + 1)(\cancel{x - 1})} = \lim_{\substack{x \rightarrow 1 \\ x > 1}} \frac{x - 1}{x + 1} = \frac{1 - 1}{1 + 1} = \frac{0}{2} = 0$$

$$\underline{\text{Ex 8}}: \lim_{\substack{x \rightarrow 2 \\ x > 2}} \frac{x^2 - 3x + 2}{x^2 - x - 2} = \frac{4 - 6 + 2}{4 - 2 - 2} = \frac{0}{0} = ?$$

$$\begin{aligned} \underline{\text{Num}}: \quad x^2 - 3x + 2 &= (x - 2)(ax + b) = \\ &= ax^2 + bx - 2ax - 2b \\ &= ax^2 + (b - 2a)x - 2b \end{aligned}$$

$$1 = a \quad 2 = -2b \Leftrightarrow b = -1$$

$$\text{Vérifier: } b - 2a = -1 - 2 = -3 \Rightarrow \underline{OK}$$

$$\text{Alors } x^2 - 3x + 2 = (x - 2)(x - 1)$$

$$\begin{aligned} \underline{\text{Den}}: \quad x^2 - x - 2 &= (x - 2)(ax + b) = \\ &= ax^2 + (b - 2a)x - 2b \\ a &= 1 \quad -2 = -2b \Leftrightarrow b = 1 \end{aligned}$$

$$\text{Alors: } x^2 - x - 2 = (x-2)(x+1)$$

$$\text{Donc } \lim_{\substack{x \rightarrow 2 \\ x > 2}} \frac{(x-2)(x-1)}{(x-2)(x+1)} = \frac{2-1}{2+1} = \frac{1}{3}$$