

LJP: TE 19. ANALYSE - LIMITES.

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$$1. \lim_{x \rightarrow 6^+} \frac{x-4}{x-6} = \frac{2}{0^+} = +\infty \quad (AV \ x=6)$$

$$2. \lim_{x \rightarrow \frac{1}{3}} \frac{-8}{3x-1} = \frac{-8}{0} \quad \begin{cases} x > \frac{1}{3} & \frac{-8}{0^+} = -\infty \\ x < \frac{1}{3} & \frac{-8}{0^-} = -\infty \end{cases} \quad AV \ x = \frac{1}{3}$$

$$3. \lim_{x \rightarrow -1^+} \frac{3x-1}{5x+5} = \frac{-4}{0^+} = -\infty \quad (AV \ x = -1)$$

$$4. \lim_{x \rightarrow 0^-} \frac{x-1}{8-x} = -\frac{1}{8}$$

$$5. \lim_{x \rightarrow 2} \frac{x^2-9x+14}{x^2-4} = \frac{0}{0} \stackrel{\text{fact}}{=} \lim_{x \rightarrow 2} \frac{(x-2)(x-7)}{(x-2)(x+2)} = \frac{-5}{4} \quad \text{Trou } (2; -\frac{5}{4})$$

$$6. \lim_{x \rightarrow 3} \frac{x^2-11x+24}{-2(x-3)^5} = \frac{0}{0} \stackrel{\text{fact}}{=} \lim_{x \rightarrow 3} \frac{(x-3)(x-8)}{-2(x-3)^5} =$$

$$= \lim_{x \rightarrow 3} \frac{x-8}{-2(x-3)^4} = \frac{-5}{0^-} = +\infty \quad (AV \ x=3)$$

$$7. \lim_{x \rightarrow +\infty} \frac{9x-1+7x^2}{8+21x^2-4x} = \lim_{x \rightarrow +\infty} \frac{7x^2}{21x^2} = \frac{1}{3} \quad (AH: y = \frac{1}{3})$$

$$8. \lim_{x \rightarrow -\infty} \frac{2|x-1|}{4-7x^2} = 0 \quad AH \ y=0$$

$$9. \lim_{x \rightarrow +\infty} \frac{14x^3+x-11}{-14x+1} = \lim_{x \rightarrow \infty} \frac{14x^3}{-14x} = \lim_{x \rightarrow \infty} (-x^2) = -\infty$$

$$10. \lim_{x \rightarrow 6} \frac{(36-x^2)(3x-1)}{6(x^2-36)} = \frac{0}{0} = \lim_{x \rightarrow 6} \frac{-(x^2-36)(3x-1)}{6(x^2-36)} = \frac{-17}{6} \quad \text{Trou } (6; -\frac{17}{6})$$