

$$y = 2x + \frac{2}{x} + 4$$

$$y = \frac{2x^2 + 2 + 4x}{x} = \frac{2x^2 + 4x + 2}{x}$$

$$x \neq 0 \Rightarrow \mathbb{R} - \{0\}$$

Ass $\begin{cases} y = \frac{2x^2 + 4x + 2}{x} = \frac{2}{0} \quad \emptyset \text{ No INT. } \text{Ass } y \\ x = 0 \end{cases}$

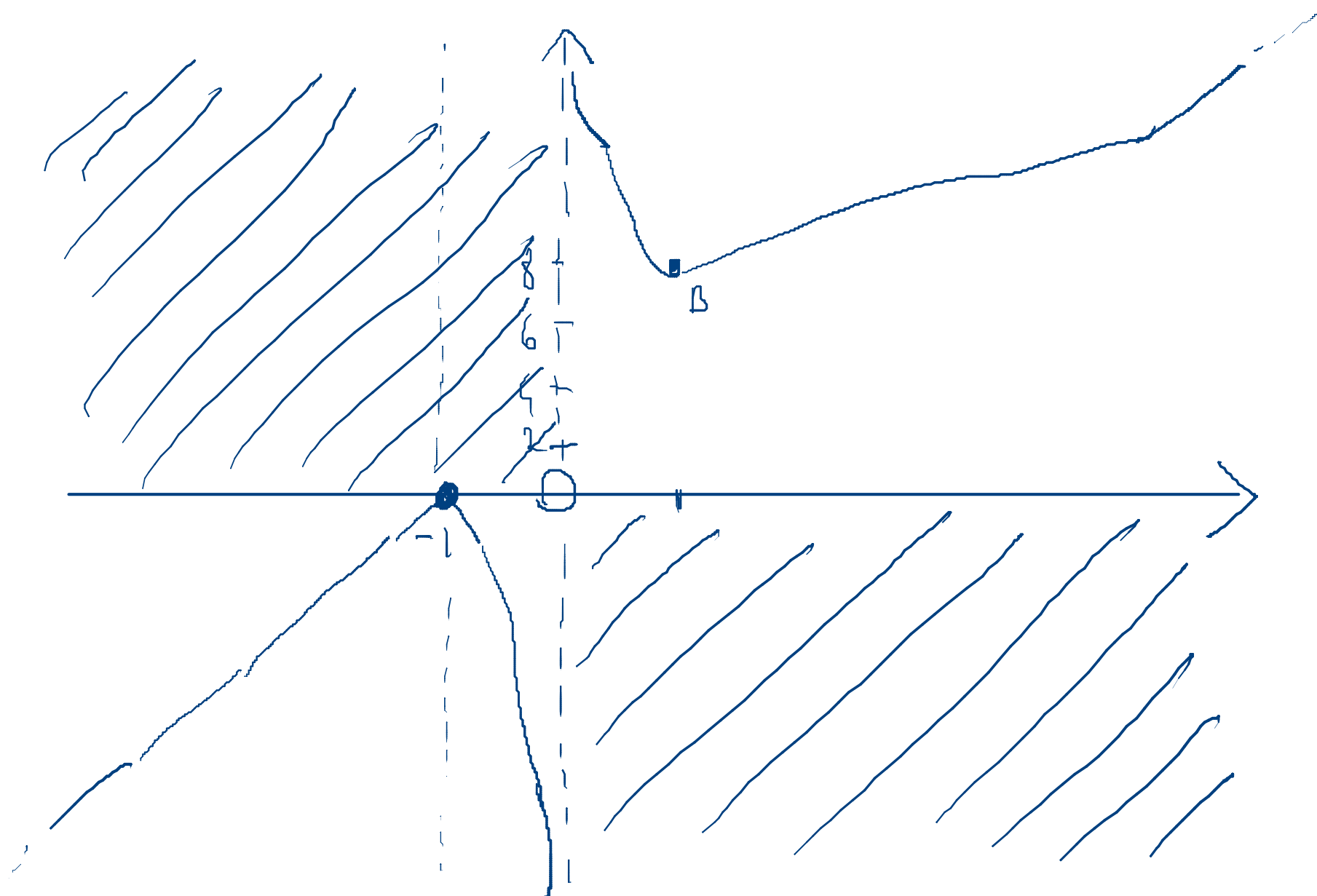
$$A(-1, 0)$$

Ass $\begin{cases} y = \frac{2x^2 + 4x + 2}{x} \\ x \\ y = 0 \end{cases}$

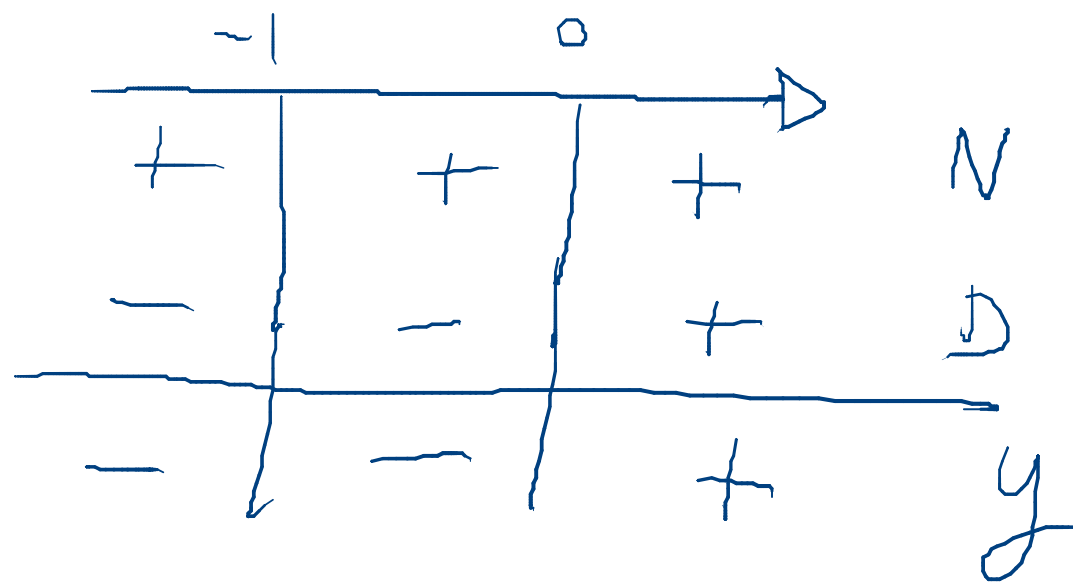
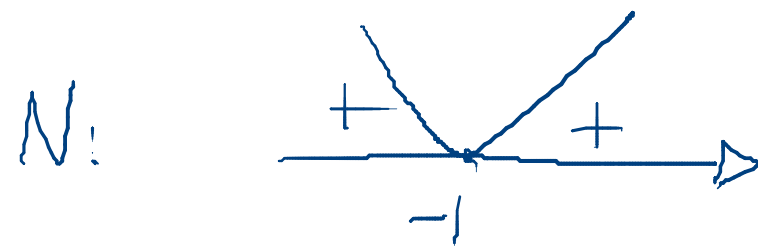
$$\cancel{x} \cdot \frac{2x^2 + 4x + 2}{\cancel{x}} = 0$$

$$\Delta = 16 - 16 = 0$$

$$x_{1,2} = \frac{-4 \pm 0}{4} = -1$$



$$\frac{2x^2 + 4x + 2}{x} > 0$$



$$y > 0 \quad \& \quad x > 0$$

$$y < 0 \quad \& \quad x < -1 \vee -1 < x < 0$$

$$\lim_{x \rightarrow 0} \frac{2x^2 + 4x + 2}{x} = \frac{2}{0} = \infty$$

$$\lim_{x \rightarrow 0}$$

$$\frac{2x^2 + 4x + 2}{x} = \frac{2}{0} = \infty$$

A.V.

$$x \neq 0$$

DISC. $\mathbb{R}$

$$\frac{N}{0} = \infty \quad \frac{N}{\infty} = 0$$

$$\lim_{x \rightarrow +\infty} \frac{2x^2 + 4x + 2}{x} = \frac{\infty}{\infty}$$

$$\lim_{x \rightarrow +\infty} \frac{4x + 4}{1} = +\infty \quad \text{As. obl?}$$

DERIVATA

$$y' = \frac{(4x + 4)(x) - (2x^2 + 4x + 2)(1)}{x^2} = \frac{4x^2 + \cancel{4x} - 2x^2 - \cancel{4x} - 2}{x^2}$$

$$y' = \frac{2x^2 - 2}{x^2}$$

$$\frac{2x^2 - 2}{\cancel{x^2}} = 0$$

$$\frac{2x^2}{2} = \frac{2}{2}$$

$$x^2 = 1$$

$$x = \pm 1$$

$$A(-1; 0)$$

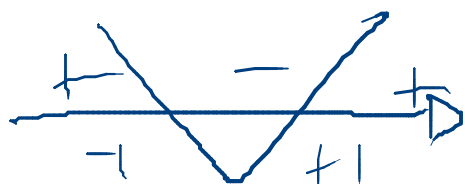
$$B(1; 8)$$

$$f(-1) = 0$$

$$f(1) = \frac{2 + 4 + 2}{1} = 8$$

$$\frac{2x^2 - 2}{x^2} > 0$$

N:



D:

