

$$\begin{aligned}
 & - y_1 e^{4x} \\
 & - y_2 \begin{matrix} 2x \\ 4x-4 \end{matrix} \quad 2(2x-2) \\
 & - y_3 \quad 2
 \end{aligned}$$

$$y_g = C_1 e^{4x} + C_2 x + C_3$$

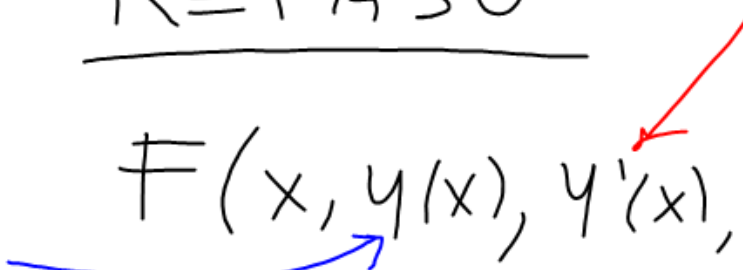
$$\text{EDO}(3) \text{ LCCNH}$$

$$y_{g/NH} = C_1 e^{4x} + C_2 x + C_3 + A e^{-4x}$$

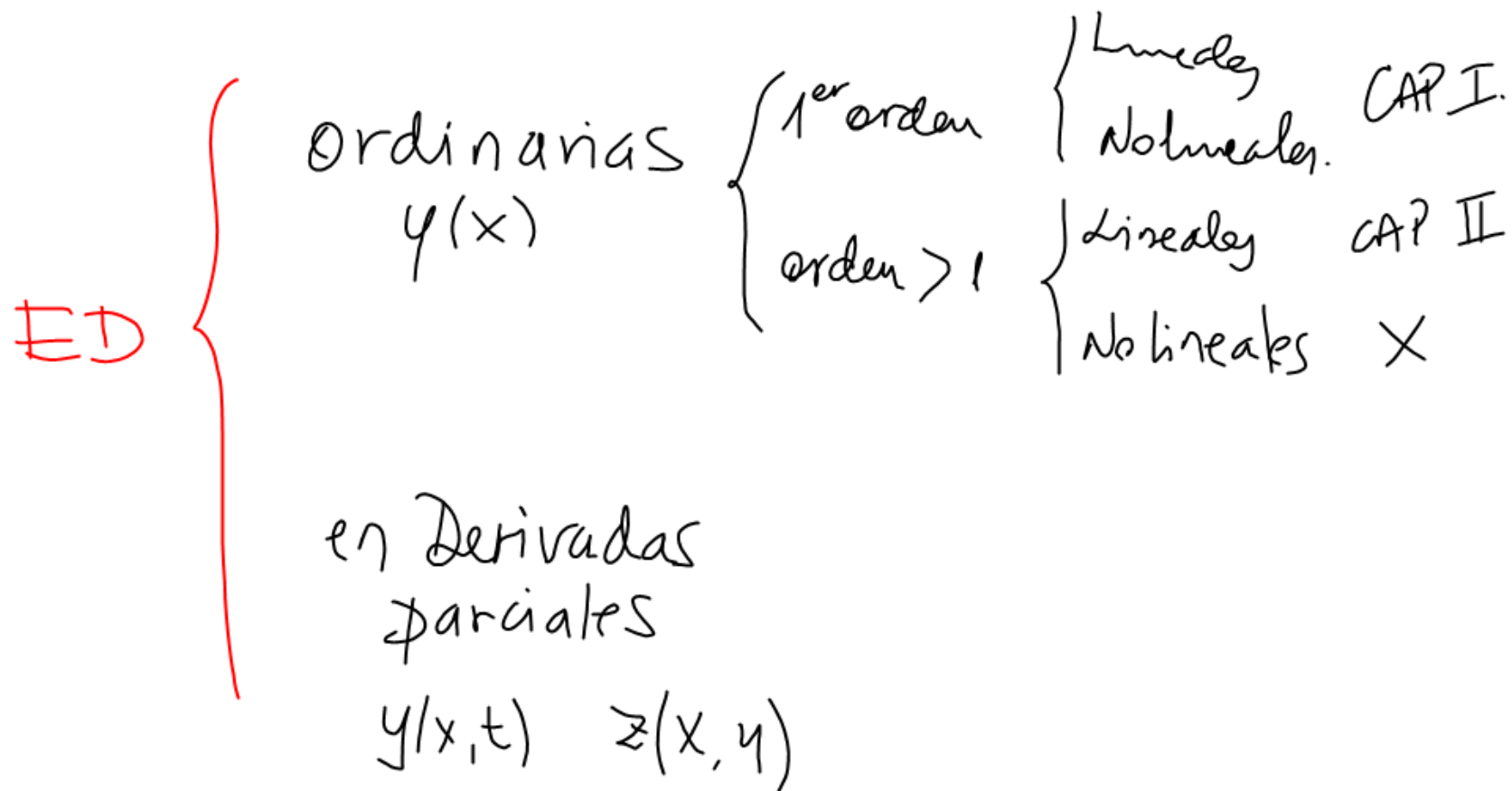
$$(D-4)(D^2)y = Q(x)$$

$$(D^3 - 4D^2)y = Q(x)$$

REPASO

$$F(x, y(x), y'(x), \dots) = 0$$


Expresión matemática con
al menos una de las derivadas
de una función incógnita.



EDO(1) NL. $M(x, y) + N(x, y) \frac{dy}{dx} = 0$ $\begin{cases} MVS \\ MCH \\ EXACTA \\ FACTOR \\ INTEGRANTE. \end{cases}$

EDO(1) L CVNH. $\frac{dy}{dx} + p(x)y = q(x)$

$\frac{dy}{dx} + p(x)y = 0$ VS

$\frac{dy}{dx} = -p(x)y$

$\int \frac{dy}{y} = \int p(x) dx$

$\ln y = C_1 - \int p(x) dx$

$y = C_1 e^{-\int p(x) dx}$

$\frac{dy}{dx} + p(x)y = 0$

$\frac{d}{dx} \left(e^{\int p(x) dx} (y) \right) = 0 \rightarrow \int d \left(e^{\int p(x) dx} y \right) = C_1$

$e^{\int p(x) dx} y = C_1$

$y = C_1 e^{-\int p(x) dx}$

$\frac{dy}{dx} + p(x)y = q(x)$

$\int d \left(e^{\int p(x) dx} y \right) = \int e^{\int p(x) dx} q(x) dx$

$e^{\int p(x) dx} y = C_1 + \int e^{\int p(x) dx} q(x) dx$

$y = C_1 e^{-\int p(x) dx} + e^{-\int p(x) dx} \int e^{\int p(x) dx} q(x) dx$

$$M(x, y) + N(x, y) \frac{dy}{dx} = 0$$

$$F(x, y) = C,$$

$$\int M dx + \int \left[N - \frac{d}{dy} \int M dx \right] dy = C,$$

$$\int N dy + \int \left[M - \frac{d}{dx} \int N dy \right] dx = C,$$