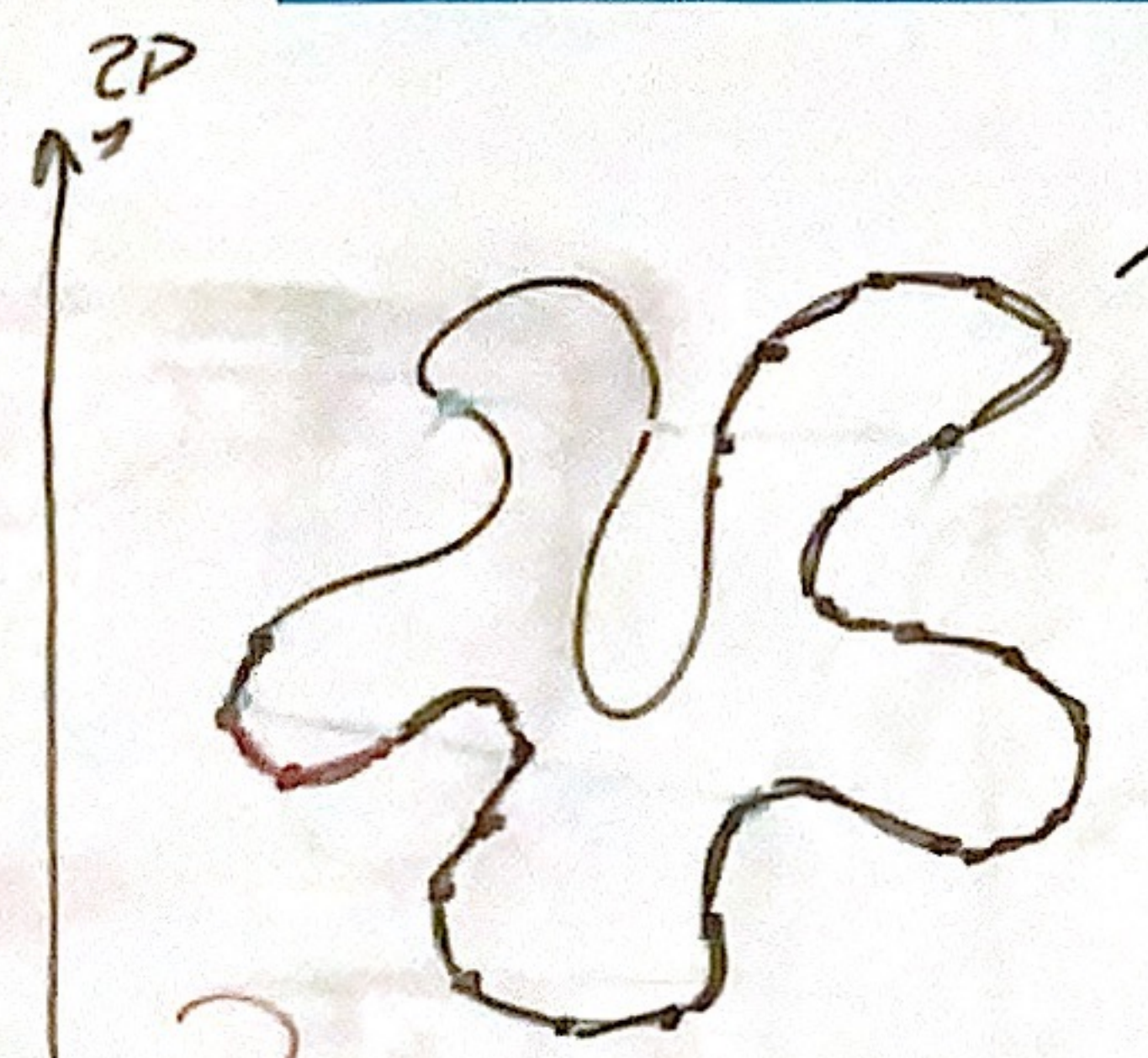
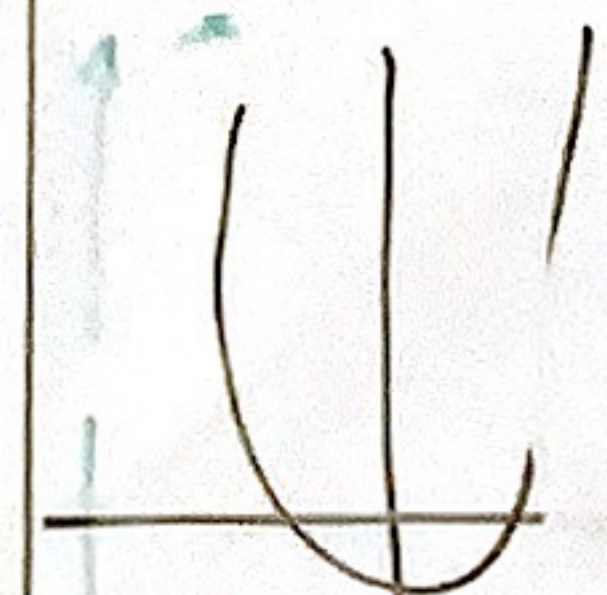


12E FRAME

ALPHA → MESH
OPENING



(A) REAL
METHOD ± APPROXIM
COMPLETO



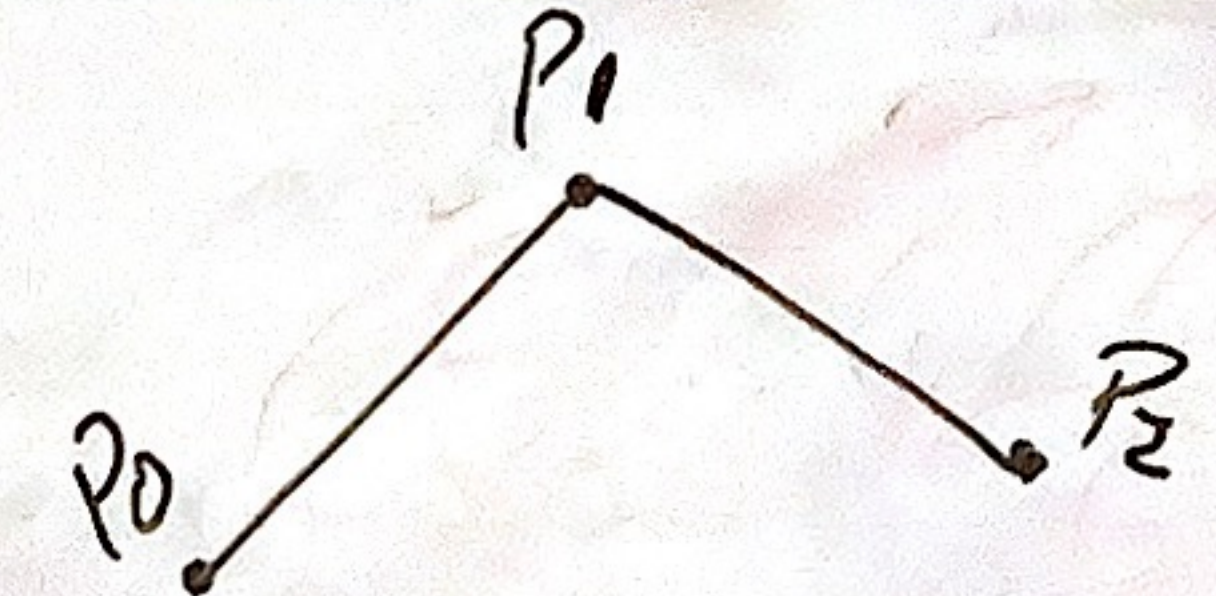
SCONNICA
APPROXIMADA

→ SPLINES

- BEZIER
- CATMULL
- HERMITE
- COONS



BEZIER

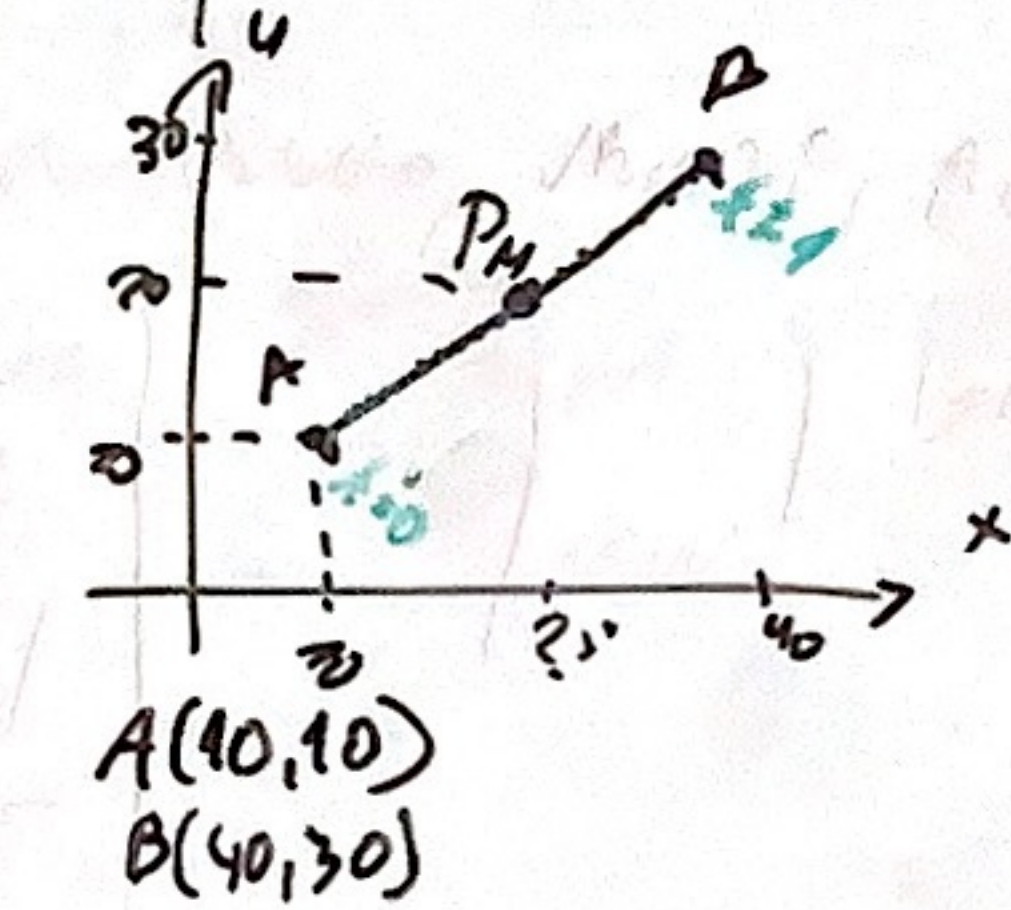


$$\begin{aligned} P_0P_1x &= P_{0x} + (P_{1x} - P_{0x}) \cdot t \\ P_0P_1y &= P_{0y} + (P_{1y} - P_{0y}) \cdot t \\ P_1P_2x &= P_{1x} + (P_{2x} - P_{1x}) \cdot t \\ P_1P_2y &= P_{1y} + (P_{2y} - P_{1y}) \cdot t \end{aligned}$$

$$\begin{aligned} R_x &= P_0P_1x + (P_1P_2x - P_0P_1x) \cdot t \\ R_y &= P_0P_1y + (P_1P_2y - P_0P_1y) \cdot t \end{aligned}$$

→ SPLINE A

Eq. Paramétrica



$$\begin{aligned} P_0P_1x &= \\ P_0P_1y &= \\ P_1P_2x &= \\ P_1P_2y &= \end{aligned}$$

$$R_x = P_0P_1x + (P_1P_2x - P_0P_1x) \cdot t$$

$$R = A + (B - A) \cdot t \rightarrow [0..1]$$

$$\begin{aligned} t=0 &\rightarrow R=A \\ t=1 &\rightarrow R=B \end{aligned}$$

For $A=0; t=0.1; t=1$

$$\begin{aligned} R_x &= A_x + (B_x - A_x) \cdot t \\ R_y &= A_y + (B_y - A_y) \cdot t \end{aligned}$$

$$\begin{aligned} t=0 & \begin{cases} R_x = 10 \\ R_y = 10 \end{cases} \\ t=1 & \begin{cases} R_x = 40 \\ R_y = 30 \end{cases} \\ t=0.5 & \begin{cases} R_x = 25 \\ R_y = 20 \end{cases} \end{aligned}$$

$$\frac{1}{0.05} = 20$$