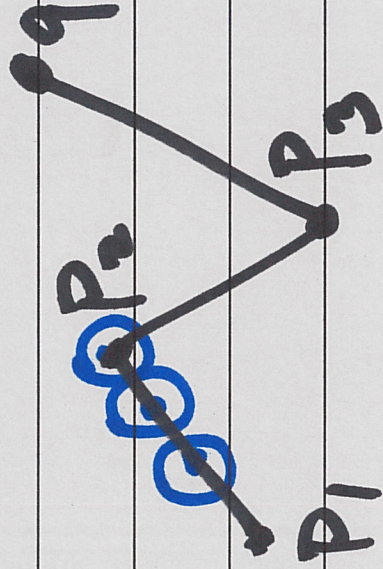


Concatenated segments



polygonal path.

Theorem: If U is open and connected in \mathbb{R}^n and $P, q \in U$, then there is a polygonal path connecting P to q .

Theorem: Also, there is a path $\gamma \in C^1([a, b] \rightarrow \mathbb{R}^n)$ connecting P to q .

$$\gamma(t) = (\gamma_1(t), \gamma_2(t), \dots, \gamma_n(t))$$



coordinate functions

$$\gamma_j : [a, b] \rightarrow \mathbb{R}$$

$$\gamma_j \in C^1[a, b]$$