

12/2/10 - 1

CUBIC



CURVATURE MATCHES

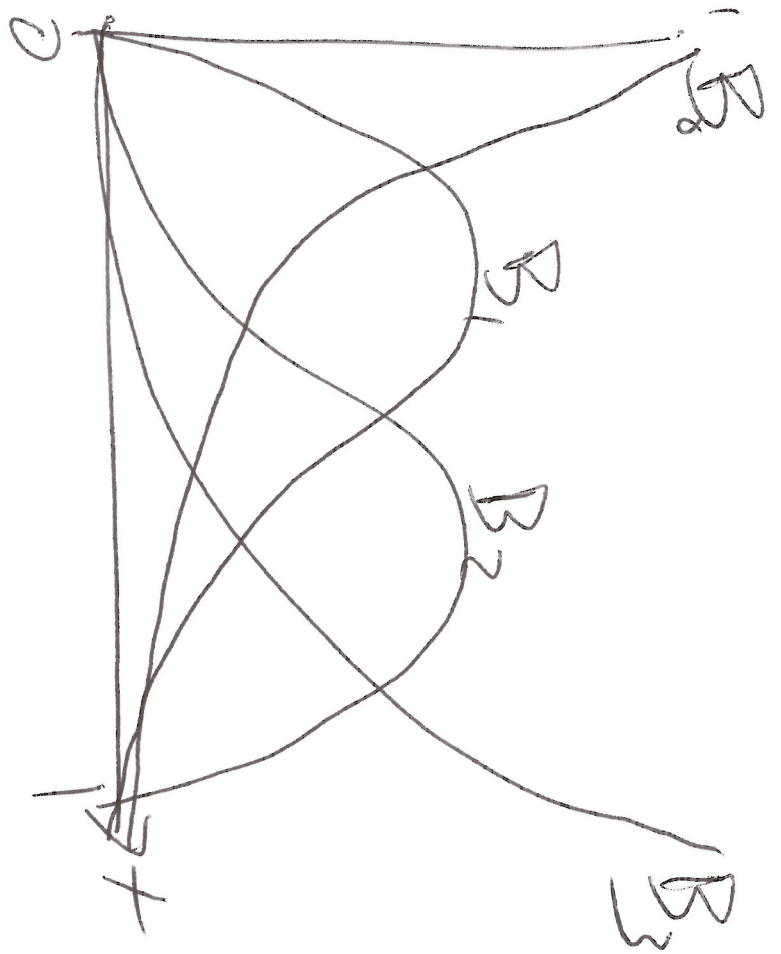
CUBIC PARAM

$$x = \sum_{k=0}^3 a_k t^k$$

$$y = \sum_{k=0}^3 b_k t^k$$

$$0 \leq t \leq 1$$





GERUSTEIN BASIS \curvearrowright

$$B_0 = (1-t)^3$$

$$B_1 = 3t(1-t)^2$$

$$B_2 = 3t^2(1-t)$$

$$B_3 = t^3$$

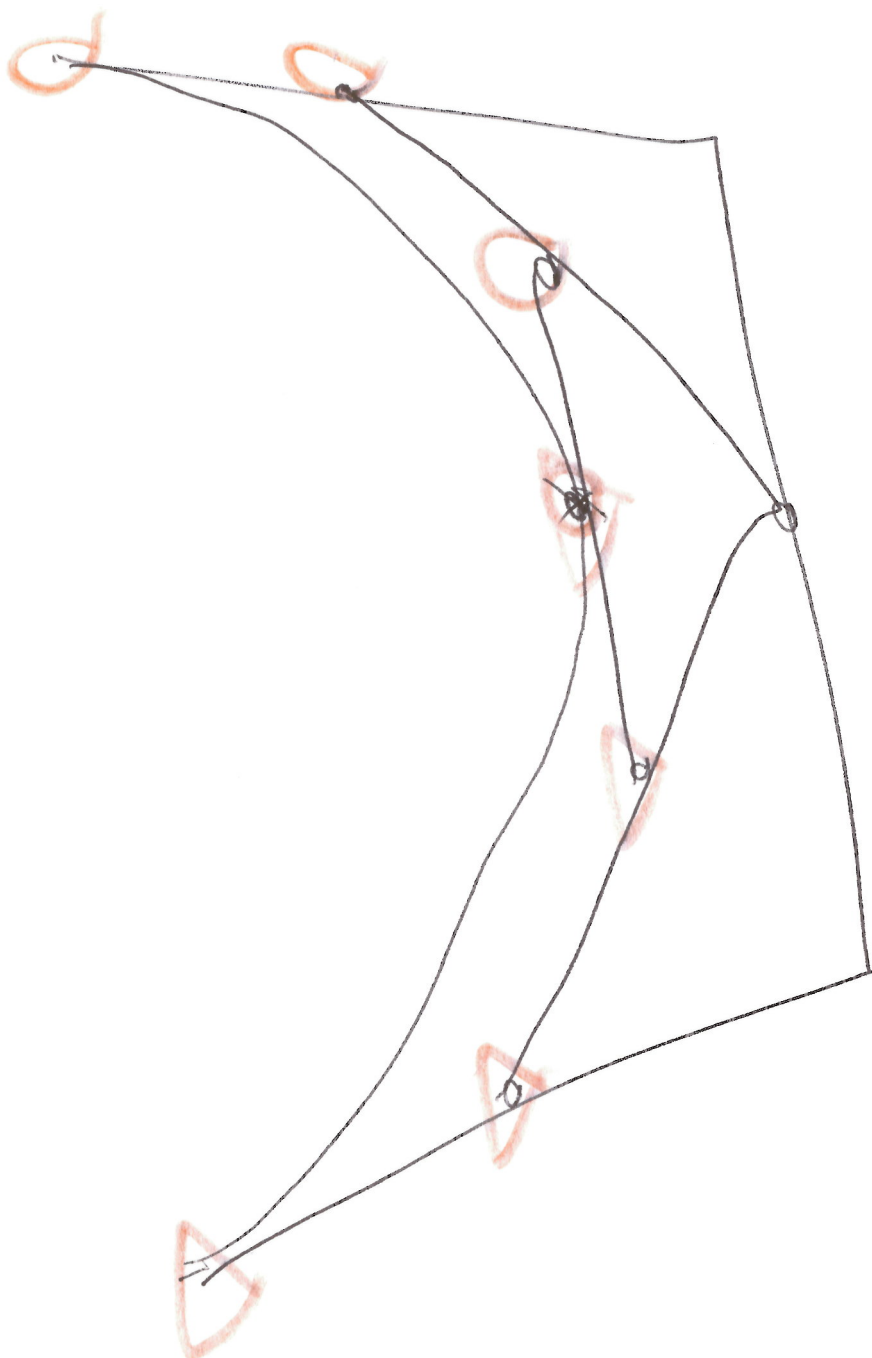
$$B_r(t) = \binom{3}{r} t^r (1-t)^{3-r}$$

BERUSTEIN-BEZIER

$$P(t) = \sum_{r=0}^3 B_r(t) P_r$$

A_i

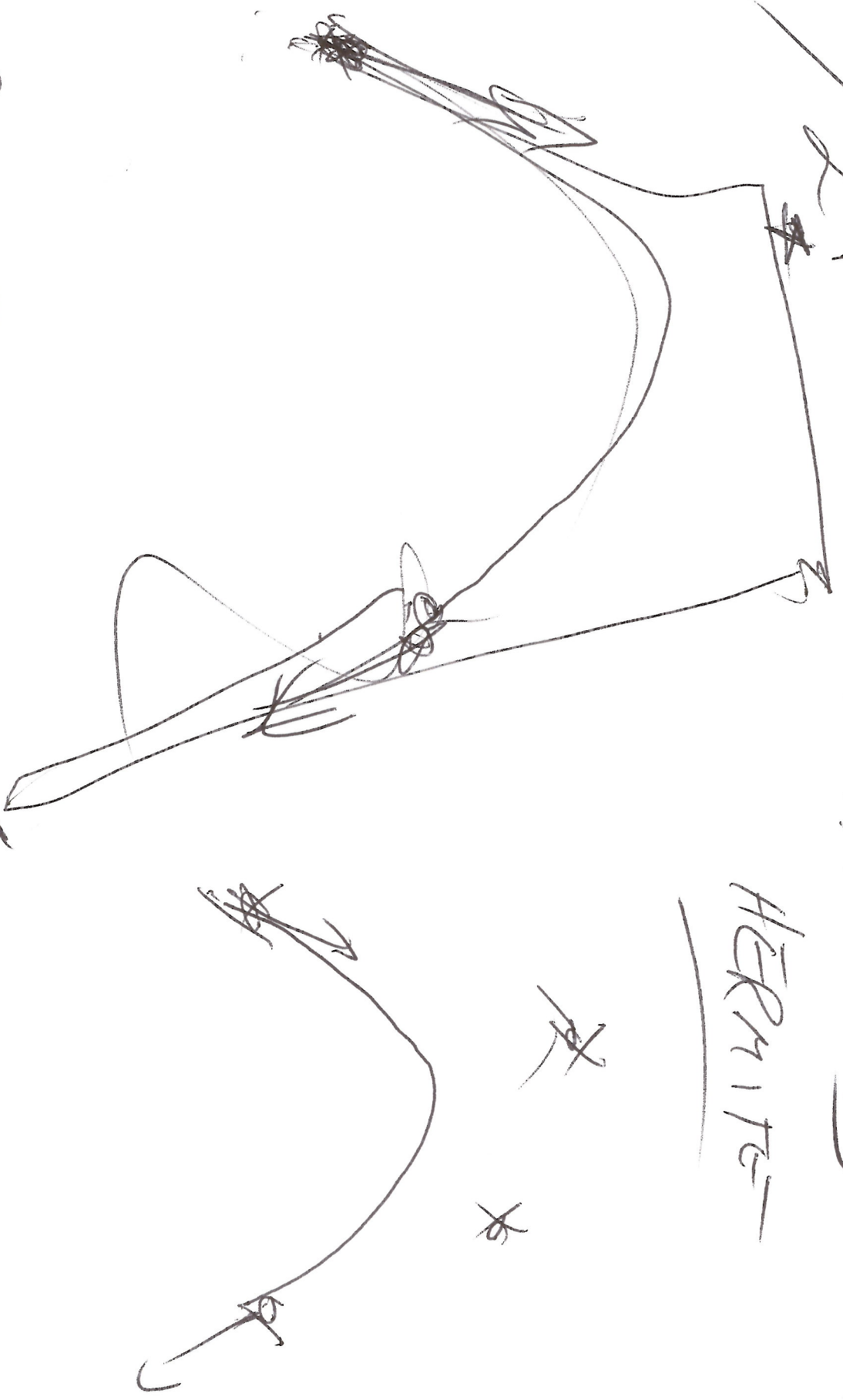




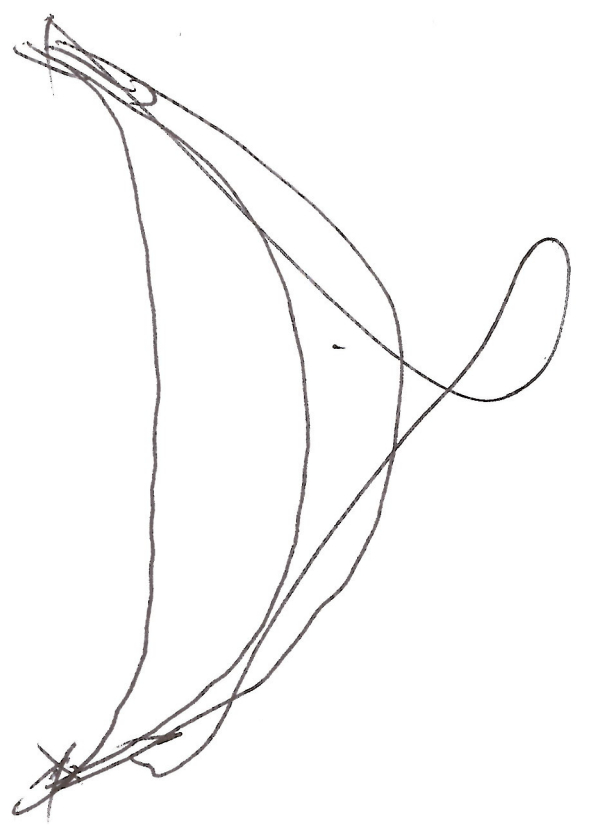
W

with 2 points + 2 tangents 4

HERMITE

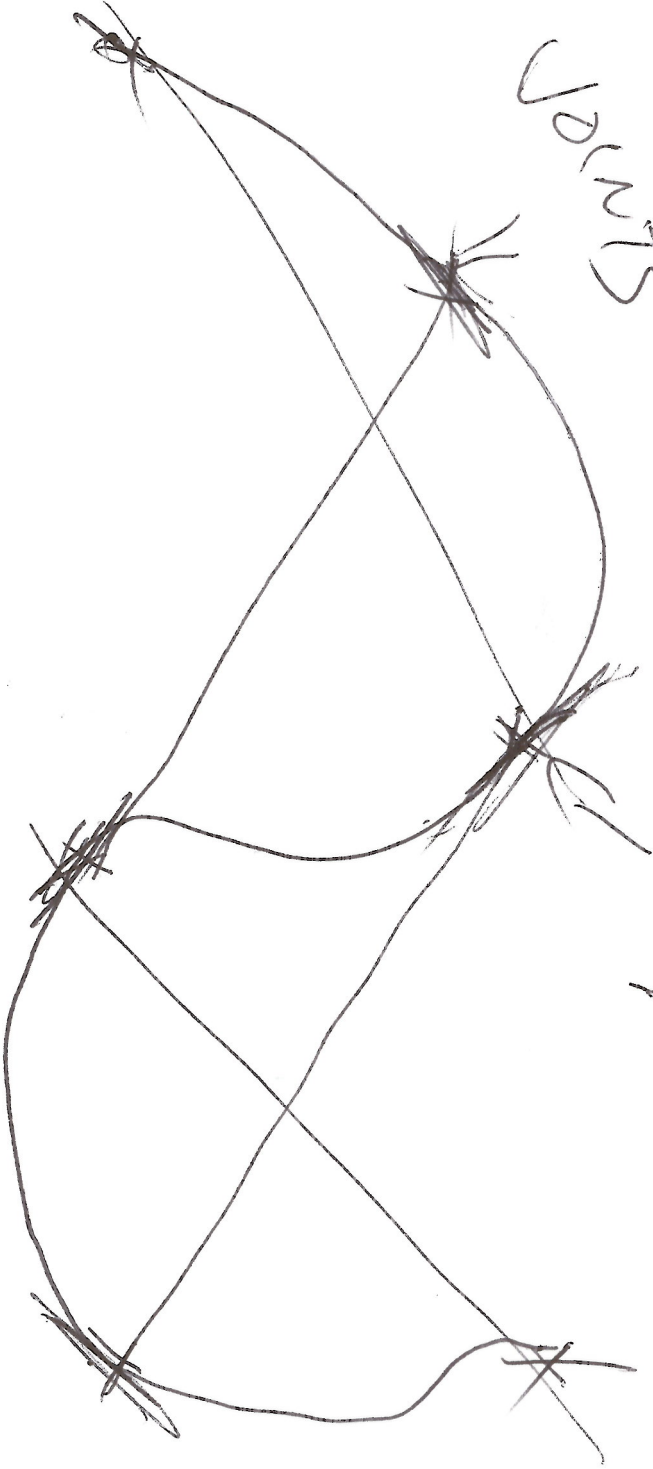


CAN FIND CONTROL POINTS



Joints

CURVATURE
PVA + CH₂



SPLINE

