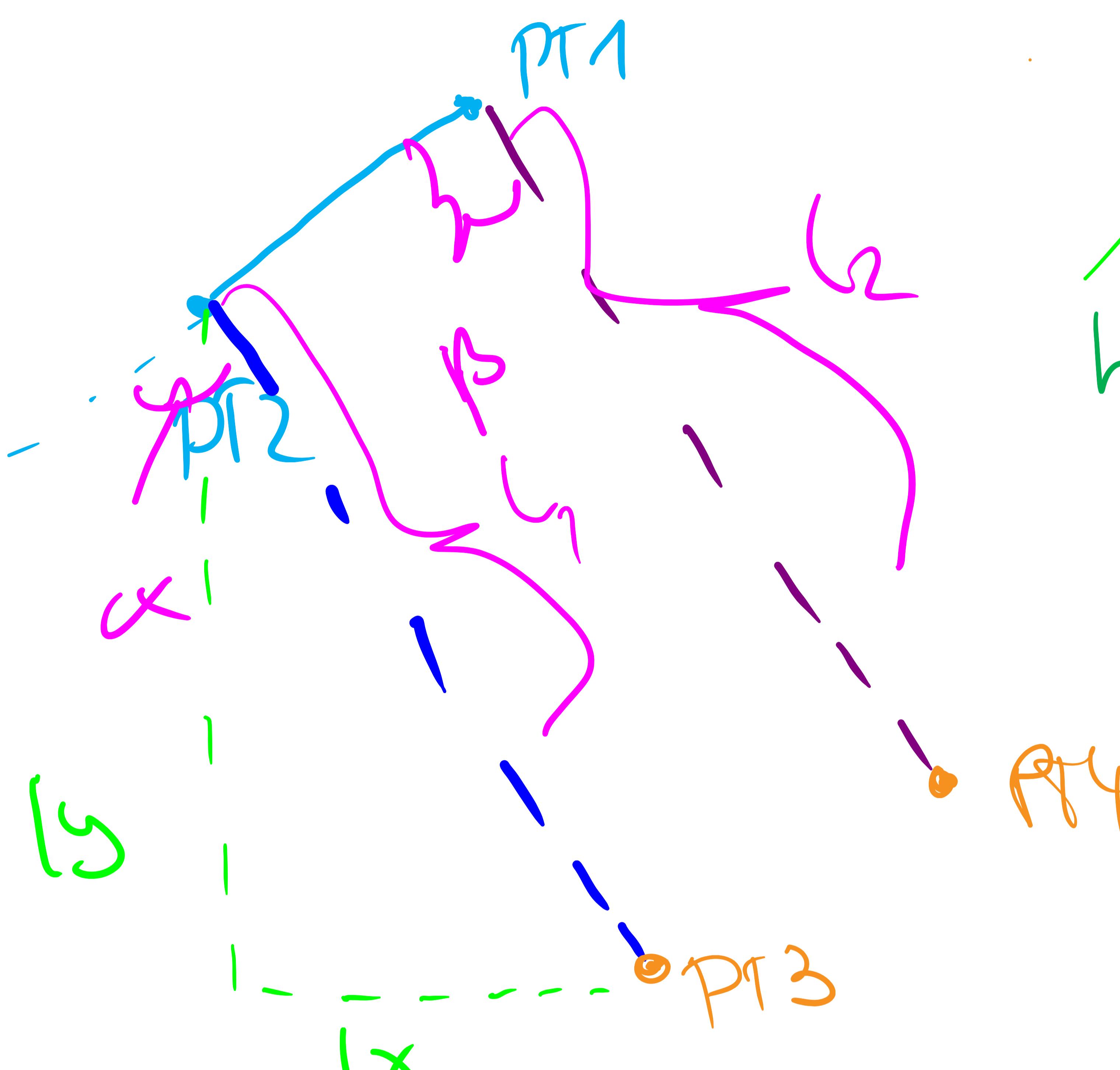


Slot representation



→ Get PT & DR from feature maps directly (Sigmoid) → Calc like (x, y) in Update

$$PT1 = [x_1, y_1]$$

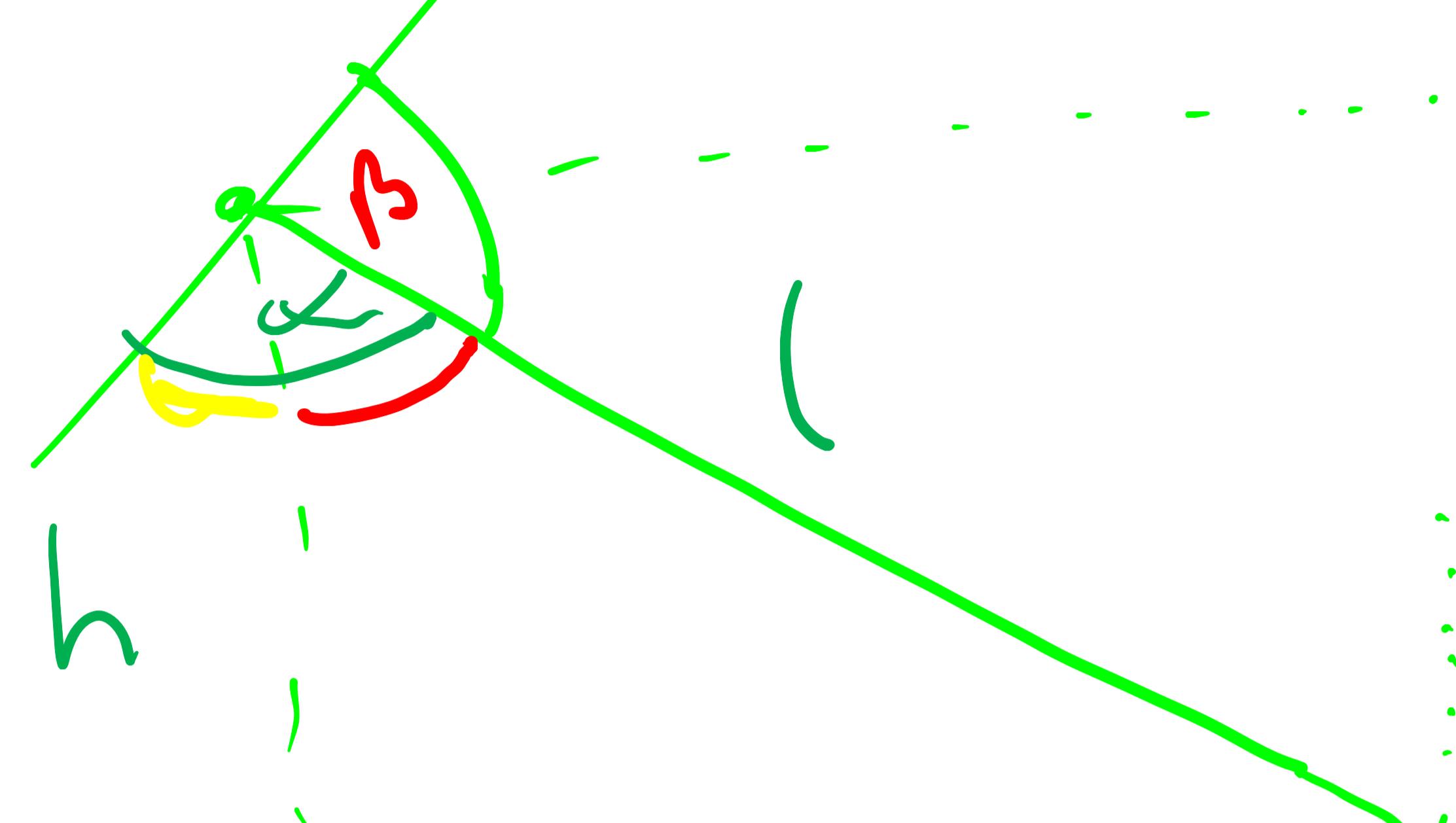
$$PT2 = [x_2, y_2]$$

$$PT3 = [x_2 + b_x, y_2 + b_y]$$

$$PT4 = []$$

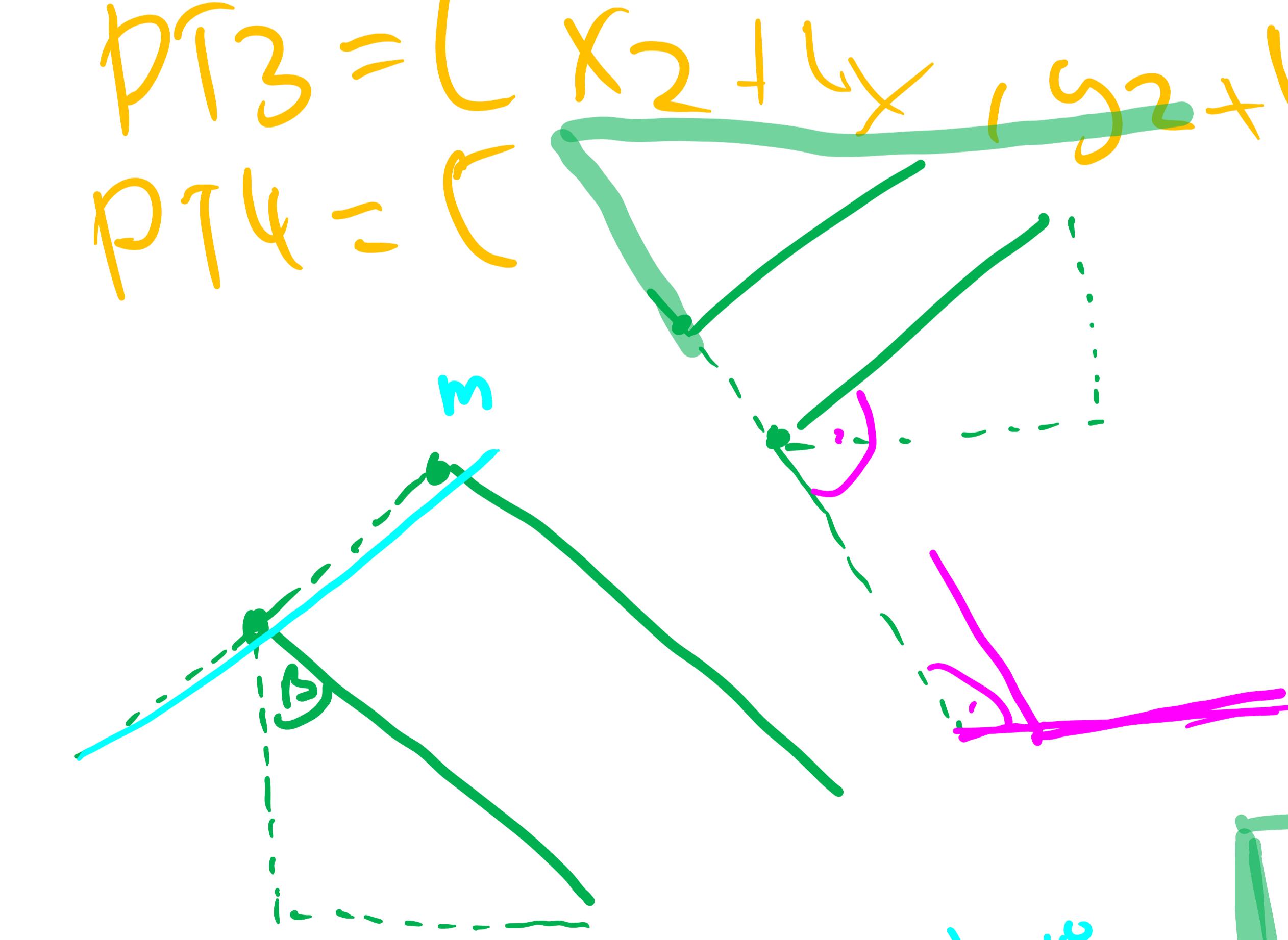
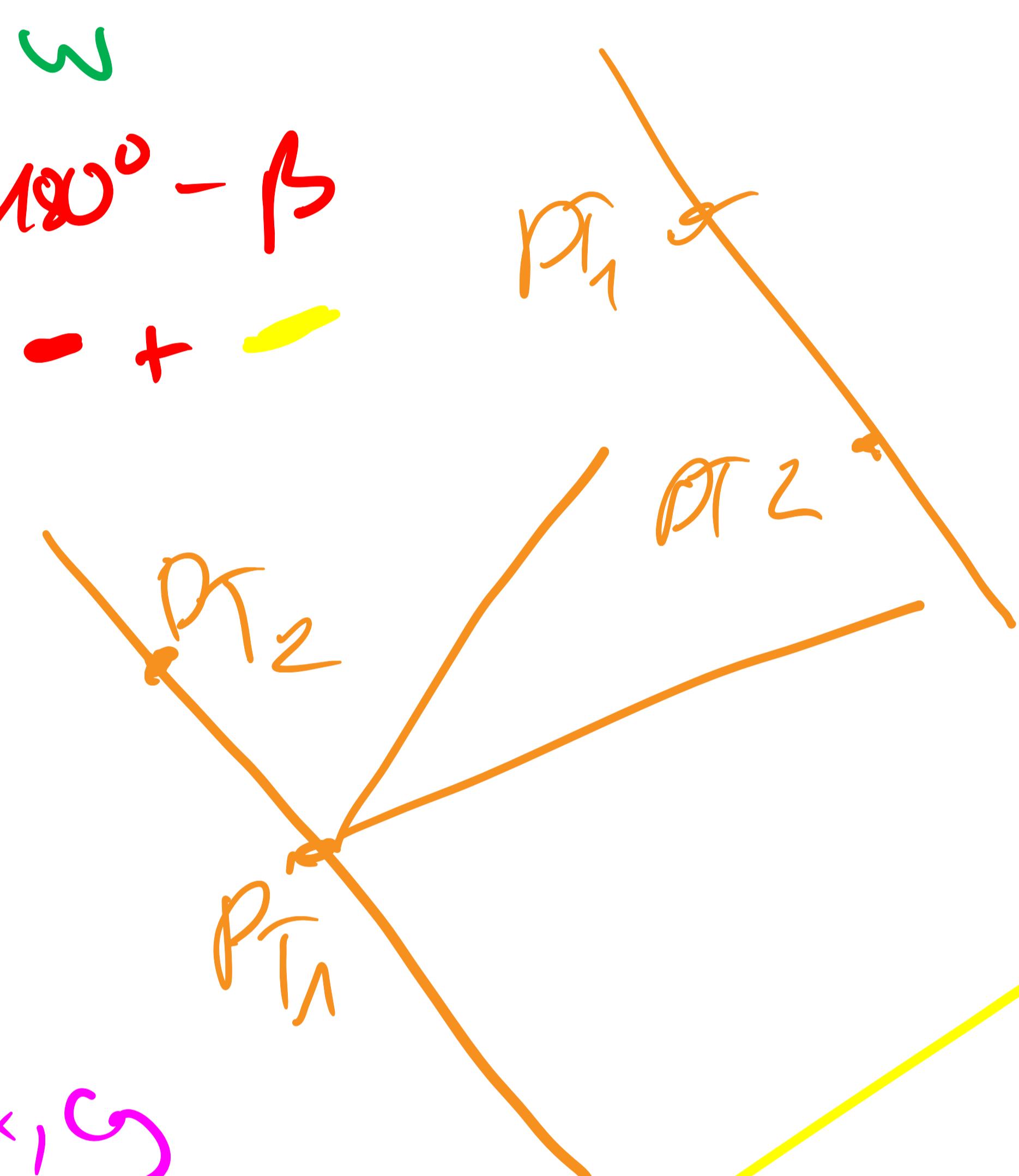
$$\theta = 180^\circ - \beta$$

$$\beta = 180^\circ - \alpha$$



$$\alpha = 180^\circ - \beta$$

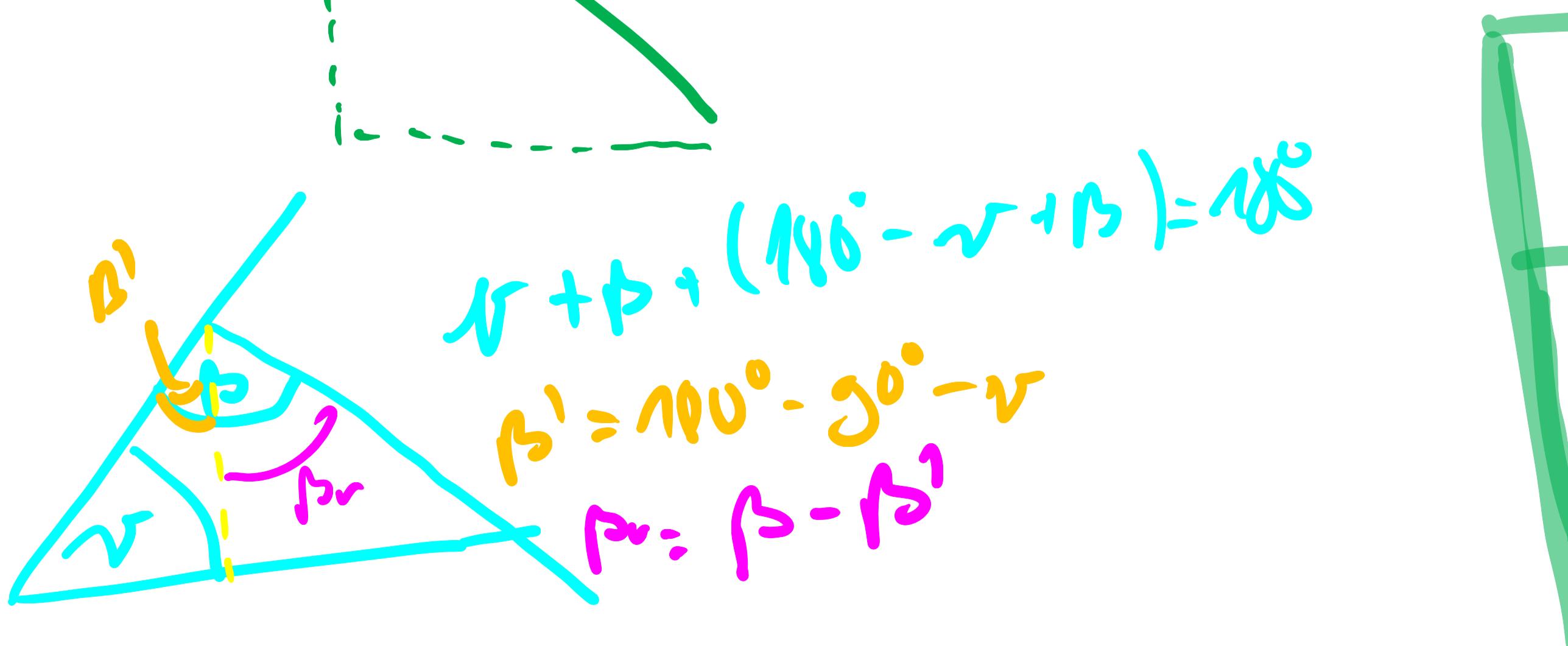
$$\alpha = - +$$

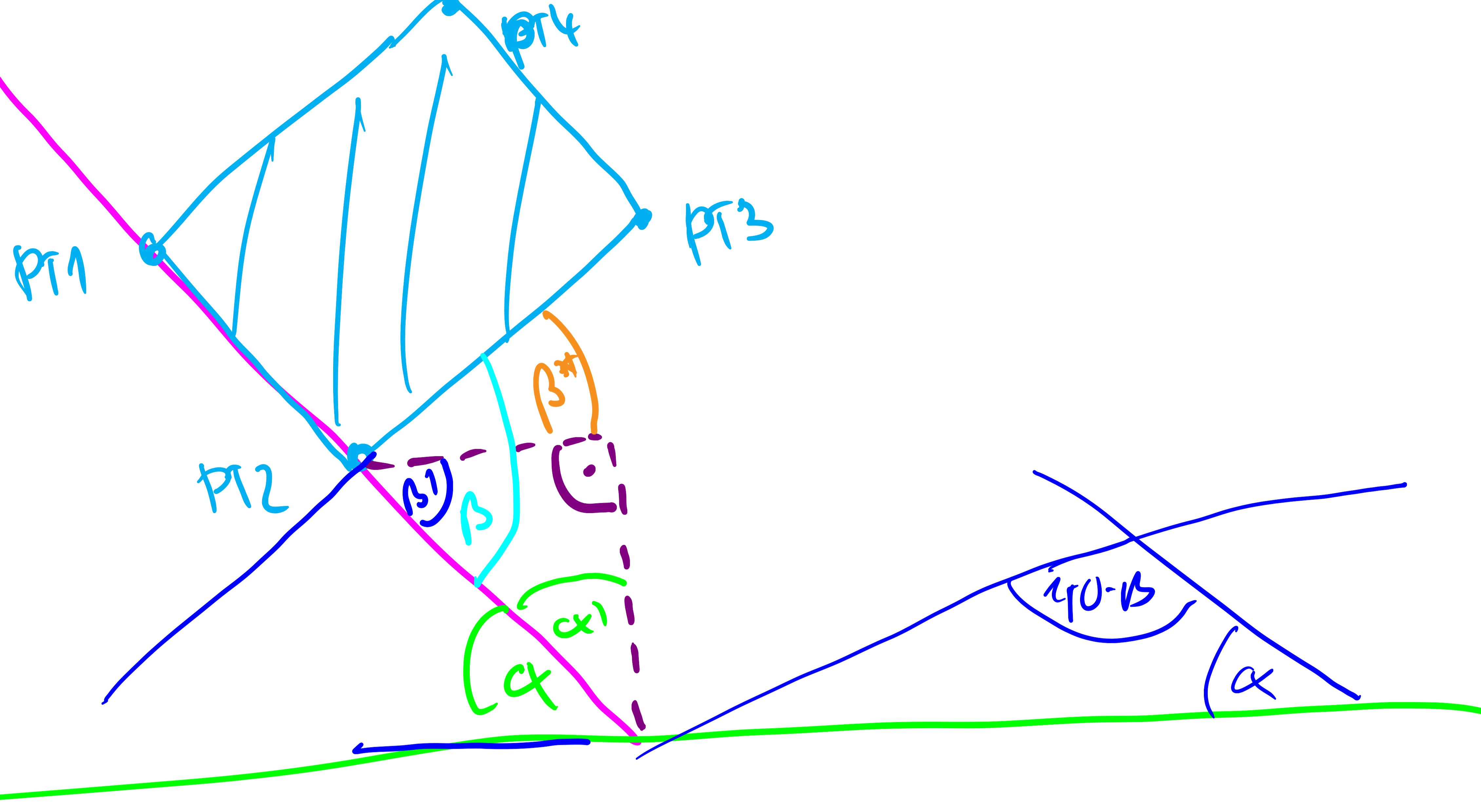


$$\alpha + \beta + (180^\circ - \alpha + \beta) = 180^\circ$$

$$\beta' = 180^\circ - 90^\circ - \alpha$$

$$\alpha' = \beta - \beta'$$



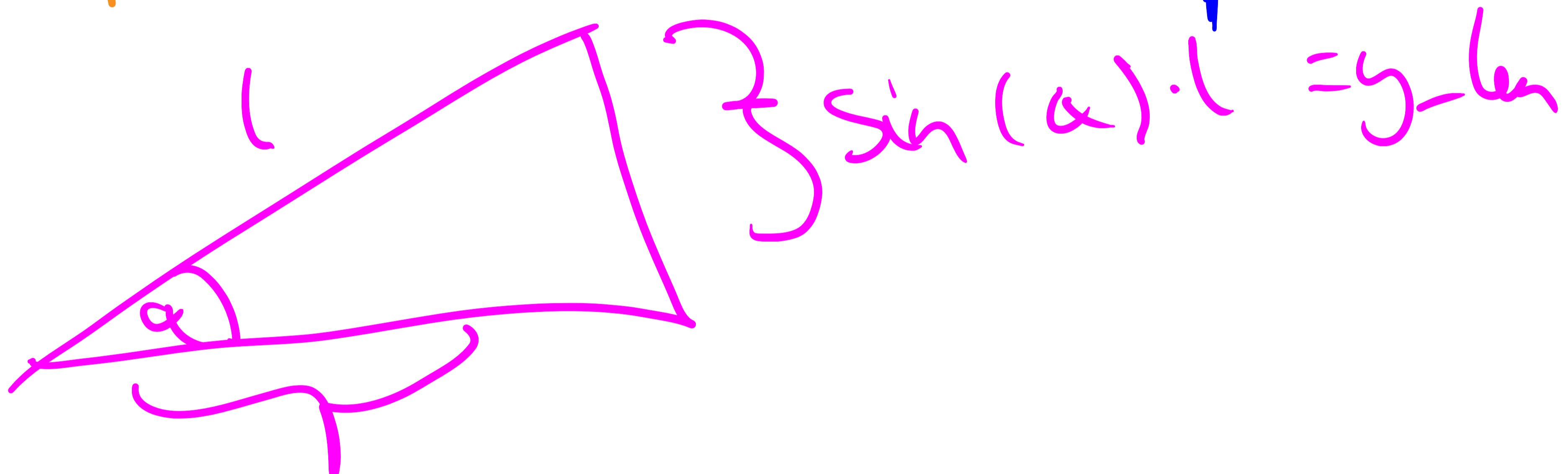
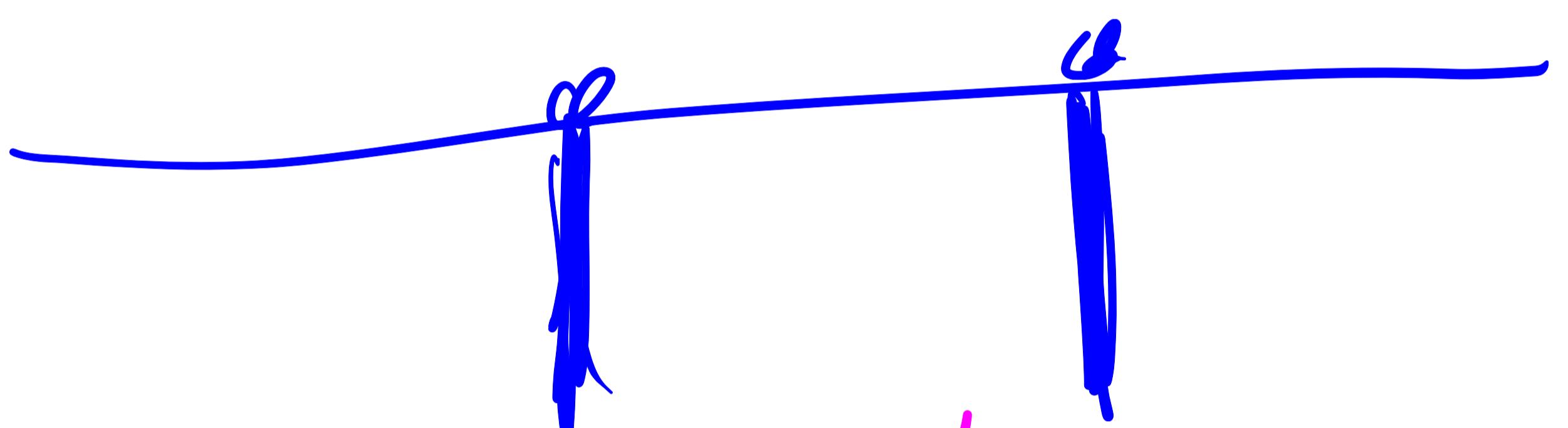


$$\alpha = \arctan(m)$$

$$\alpha' = 90^\circ - \alpha$$

$$\beta' = 180 - 90 - \alpha'$$

$$\beta^* = \beta - \beta'$$



$$\cos(\alpha) \cdot l = x_len$$

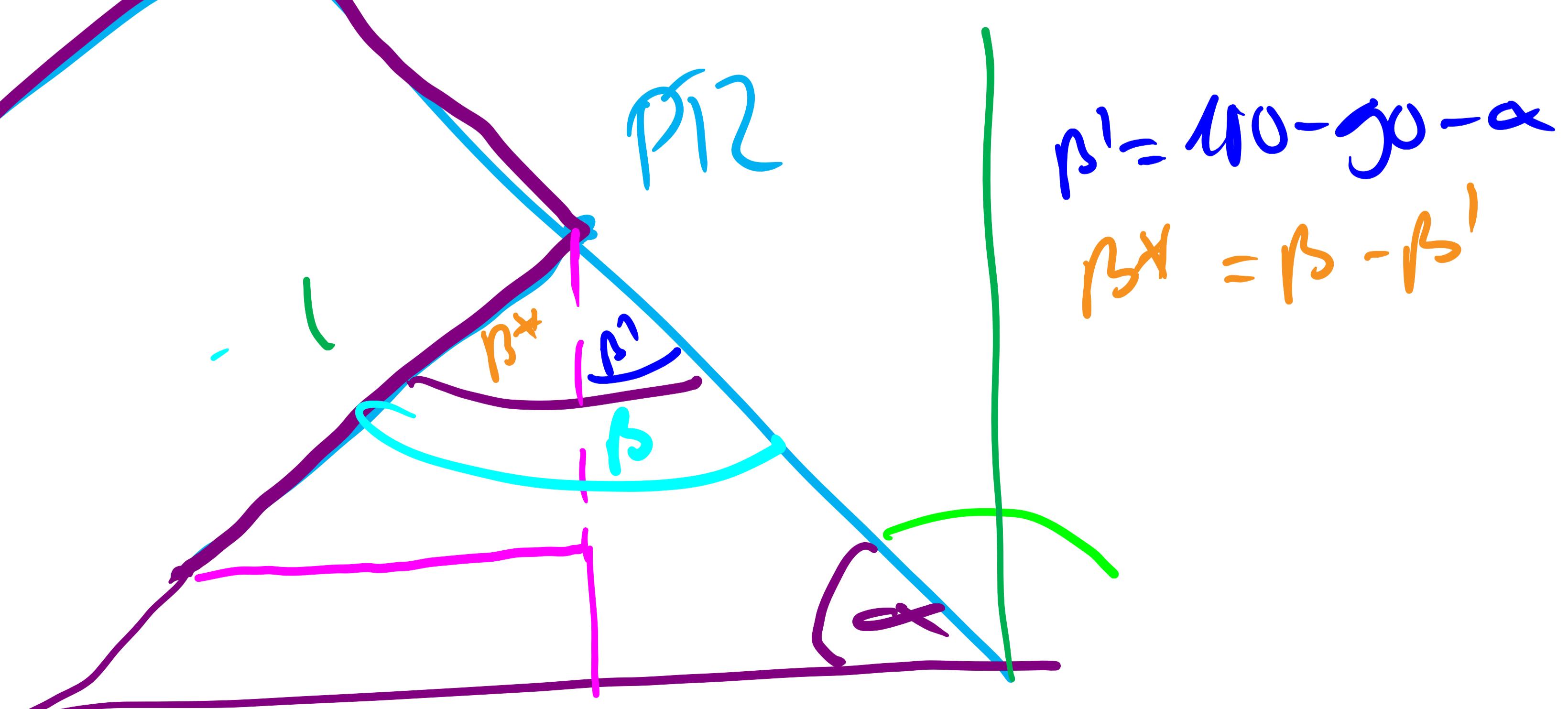
$$PT3 = [PT2[0] + x_len, PT1[1] - y_len]$$

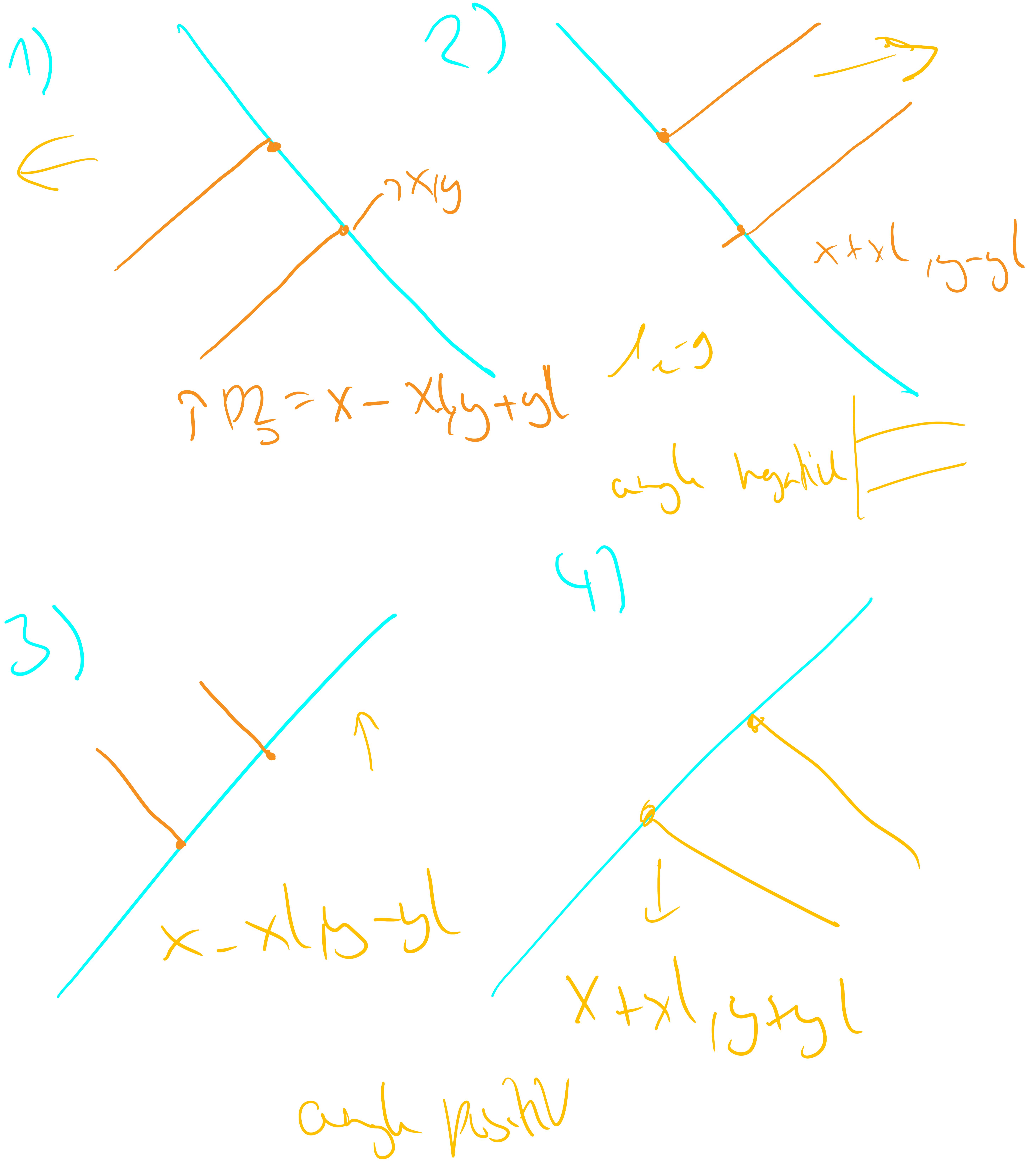
$$m = 200 / 100$$

$$PT3 = P2_x + \gamma \cdot l, P2_y - \gamma \cdot l$$

$$\beta' = 180 - 90 - \alpha$$

$$\beta^* = \beta - \beta'$$





it angle positiif.

Change y from y_- to y_+

b)

$$\frac{df}{dx} = \frac{df}{dz} \frac{dz}{dx}$$

$$\frac{dz}{dx} = A \rightarrow E \times D$$

$$\frac{df}{dz} = \cos(z) \rightarrow D_m(z)$$

$$\Rightarrow \frac{df}{dx} = \cos(A) \Rightarrow E \times D$$

8 a)

$$\frac{df}{dz} = -\frac{1}{2} \exp(-\frac{1}{2}z) \Rightarrow 1 \times 1$$

$$\frac{df}{dx} = -\frac{1}{2} \exp(-\frac{1}{2}x) \cdot 1 \times D \cdot D \cdot 1 \Rightarrow 1 \times D$$

$$\frac{dz}{dy} = y^T S^{-1} y - y^T (S^{-1} + S^T)$$

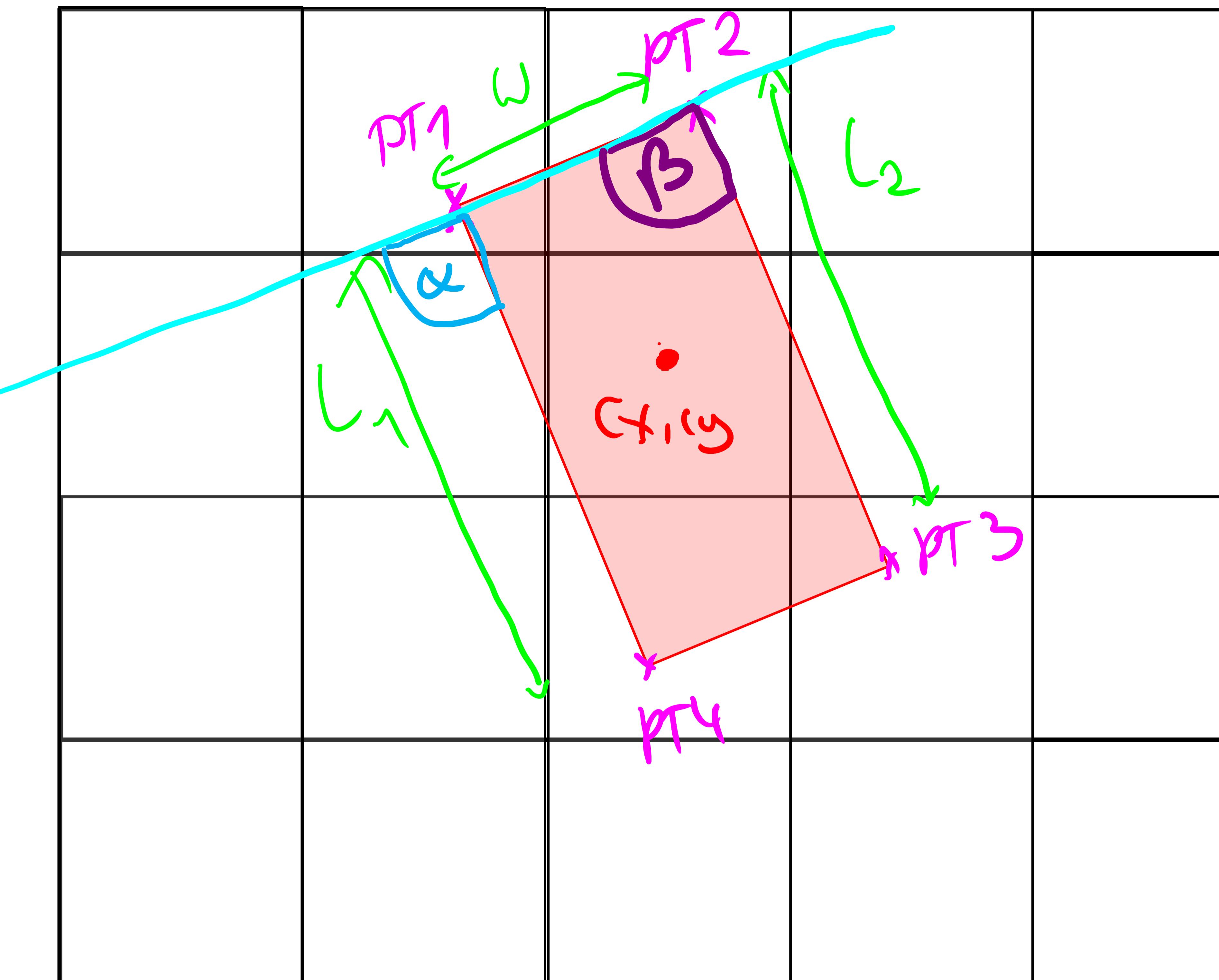
$$= y^T S^{-1} y = y^T \cdot D(S^{-1}y) +$$

$$\frac{dy}{dx} = | (S^T y)^T \cdot D(y) |$$

$$= y^T S^{-1} + (S^{-1}y)^T \cdot |$$

$$= y^T S^{-1} + y^T \cdot S^{-1 T}$$

$$= y^T \cdot (S^{-1} + S^{-1 T})$$



1) $PT1 | PT2$ based on W, l_1, l_2

