$$y - y_0 = \frac{y_1 - y_0}{x_1 - x_0}(x - x_0)$$

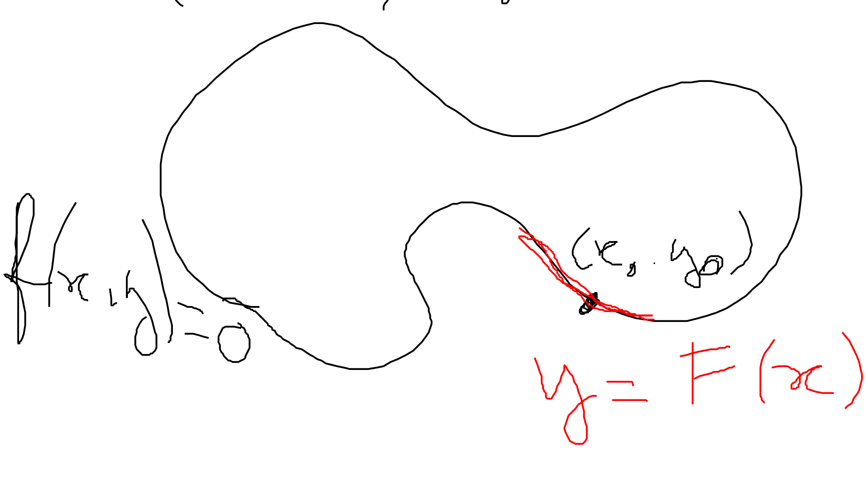
$$r: \quad \frac{x - x_0}{\underbrace{x_1 - x_0}_{l\,=}} = \frac{y - y_0}{\underbrace{y_1 - y_0}_{m\,=}}$$

$$n_r: \quad (x_1 - x_0)(x - x_0) + (y_1 - y_0)(y - y_0) = 0$$

$$t: \quad y - y_0 = f'(x_0)(x - x_0)$$

$$\frac{x - x_0}{\underbrace{1}_{l\,=}} = \frac{y - y_0}{\underbrace{f'(x_0)}_{m\,=}}$$

$$n: \quad 1 \cdot (x - x_0) + f'(x_0)(y - y_0) = 0$$



$$y - y_0 = F'(x_0)(x - x_0)$$

$$y - y_0 = -\frac{f'_x(x_0, y_0)}{f'_y(x_0, y_0)}(x - x_0)$$

$$-\frac{(x - x_0)}{f'_y(x_0, y_0)} = \frac{y - y_0}{f'_x(x_0, y_0)}$$

$$f'_x(x_0, y_0)(x - x_0) + f'_y(x_0, y_0)(y - y_0) = 0$$

$$\begin{cases} x = f(u) \\ y = \varphi(u) \end{cases} \qquad \bar{P} = (x_0, y_0) \quad \bar{u}$$

$$\begin{vmatrix} x & y & 1 \\ x_0 & y_0 & 1 \\ f'(\bar{u}) & \varphi'(\bar{u}) & 0 \end{vmatrix} = 0$$

$$\begin{vmatrix} (x - x_0) & (y - y_0) & 0 \\ x_0 & y_0 & 1 \\ f'(\bar{u}) & \varphi'(\bar{u}) & 0 \end{vmatrix} = 0$$

$$-(x - x_0)\varphi'(\bar{u}) + (y - y_0) f'(\bar{u}) = 0$$

$$\frac{x - x_0}{f'(\bar{u})} = \frac{y - y_0}{\varphi'(\bar{u})}$$

Es 13 $\quad \mathcal{C}: y = x^2$

$A = (3,0)$ $\quad \mathcal{P}$ podaria di $\mathcal{C}$ da A

$$\mathcal{C}: \begin{cases} x = \alpha \\ y = \alpha^2 \end{cases} \qquad P_\alpha = (\alpha, \alpha^2)$$

tang. a $\mathcal{C}$ in P_α:

$$t_\alpha: y - \alpha^2 = 2\alpha(x - \alpha)$$

$$\frac{x-\alpha}{1} = \frac{y-\alpha^2}{2\alpha}$$

$$y - \alpha^2 - 2\alpha x + 2\alpha^2 = 0$$

$$\boxed{y - 2\alpha x + \alpha^2 = 0}$$

normale a t_α da A:

$$1(x-3) + 2\alpha(y-0) = 0$$

$$\boxed{x + 2\alpha y - 3 = 0}$$

$$\begin{cases} \alpha^2 - 2x\alpha + y = 0 \\ 2y\alpha + x - 3 = 0 \end{cases}$$

ATTENZIONE: in rosso correzioni fatte dopo la lezione

$$\alpha^2 - 2x\alpha + y \quad \Big|\quad \frac{2y\alpha + x - 3}{\dfrac{\alpha}{2y} + \dfrac{-4xy - x + 3}{4y^2}}$$

$$-\alpha^2 - \frac{\alpha x - 3\alpha}{2y}$$

errore originario

$$// \quad \frac{-4xy\alpha - \alpha x + 3\alpha}{2y} + y$$

$$- \quad \underline{\qquad\qquad} \quad + \frac{(3-x)(-4xy - x + 3)}{4y^2}$$

$$//$$

$$\boxed{\frac{(3-x)(-4xy - x + 3) + 4y^3}{4y^2}}$$

ris:

$$4y^3 + 4x^2y - 12xy + x^2 - 6x + 9 = 0$$

Es 4 $\quad \mathcal{C}: y = x^2 \quad \mathcal{C}': y = -x^3$

$$\mathcal{C}: \begin{cases} x = \alpha \\ y = \alpha^2 \end{cases} \qquad \mathcal{C}': \begin{cases} x = \alpha \\ y = -\alpha^3 \end{cases}$$

$$P_\alpha \equiv (\alpha, \alpha^2) \qquad Q_\alpha \equiv (\alpha, -\alpha^3)$$

$$t_\alpha \qquad\qquad s_\alpha$$