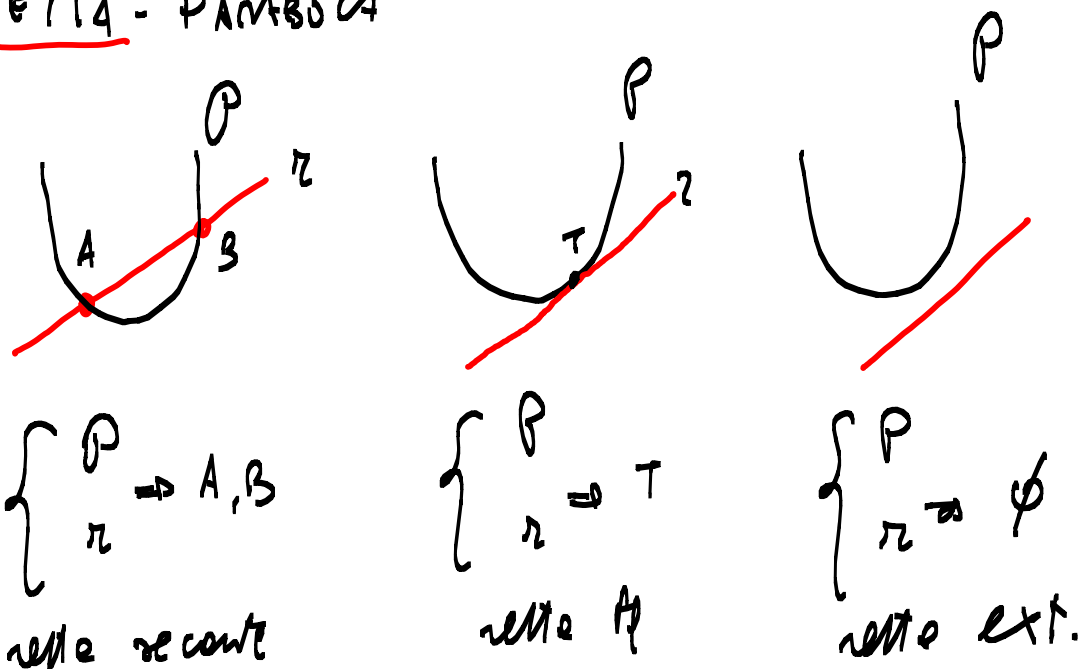


RETTA - PARABOLA

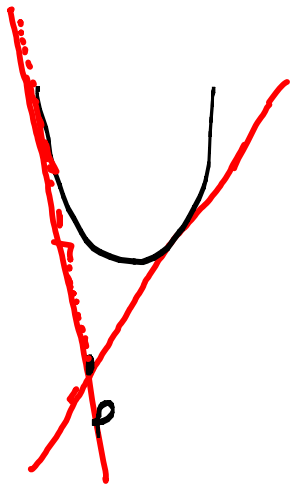


$\Delta > 0$

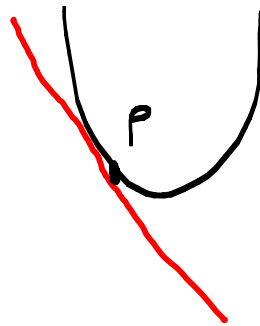
$\Delta = 0$

$\Delta < 0$

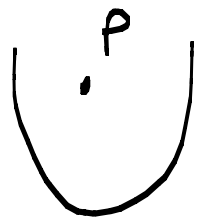
RETTE TANGENTI CONDOTTE DA UN PUNTO ESTERNO



$P \notin P \rightarrow 2 \text{ tq}$



$P \in P \rightarrow 1 \text{ tq}$



$P \text{ int. no tq}$

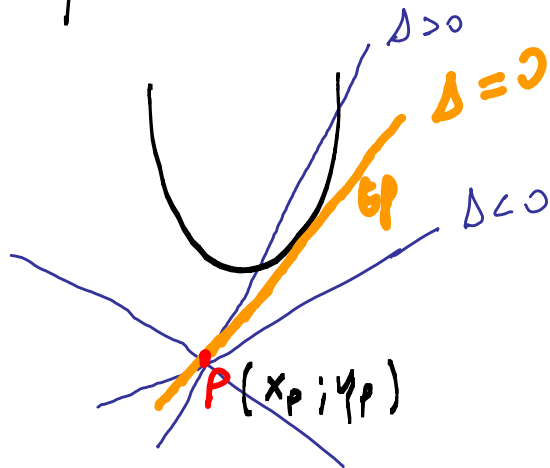
Menu'

Se dato una parabola P

- SCRIVO FASCIO RETTE e un punto P esterno
PER P



- metto a sistema il fascio e lo P esterno



$$y = ax^2 + bx + c$$

CONDIZIONI DI TG $\rightarrow \Delta = 0$ (TROVARE UNA EQUAZIONE DI 2° GRADO IN m)

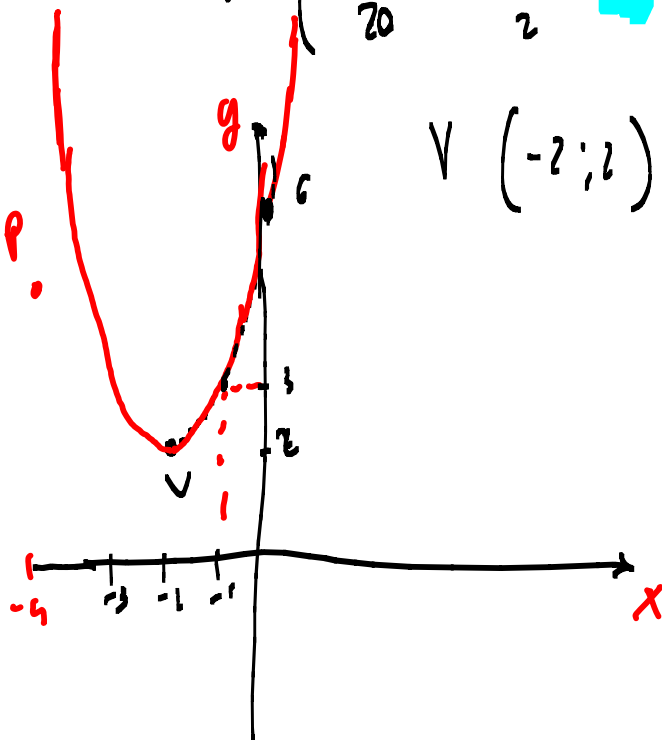
246 P: $y = x^2 + 4x + 6$ P(-4; 5)

Trova la tg allo P condotte da P(-4; 5)

$$V = \left(-\frac{b}{2a} = -\frac{4}{2} = -2 ; 4 - 8 + 6 = 2 \right)$$

$$V(-2; 2)$$

$$\begin{array}{r} x \\ 0 \\ -1 \end{array} \begin{array}{r} y \\ 6 \\ 3 \end{array}$$



$$5 = 16 - 16 + 6 ?$$

$$5 \neq 6$$

MEMO' $y - y_p = m(x - x_p)$ fucco!

$$y - 5 = m(x + 4)$$

$$\boxed{y = mx + 4m + 5}$$

$$\left\{ \begin{array}{l} \text{[red]} = x^2 + 4x + 6 \\ y = \text{[red]} \end{array} \right. \quad \text{Punkte}$$

$$\widehat{x^2} + \widehat{4x} + \widehat{6} = \widehat{mx} + \widehat{4m} + \widehat{5}$$

neue Annahme \rightarrow (yellow) $x^2 +$ (green) $x +$ (red) $= 0$

$$1 x^2 + (4-m) x + (1-4m) = 0$$

cond. di $\rightarrow \Delta = 0$

$$\Delta = b^2 - 4ac = (4-m)^2 - 4(1-4m) = 0$$

$$16 - 8m + m^2 - 4 + 16m = 0$$

$$m^2 + 8m + 12 = 0$$

$$y = mx + h \quad m \neq T$$

$$m_{1,2} = \frac{-8 \pm \sqrt{64 - 48}}{2} = \frac{-8 \pm 4}{2} = \begin{cases} -\frac{4}{2} = -2 \\ -\frac{12}{2} = -6 \end{cases}$$

$$m_1 = -2$$

$$y = -2x - 8 + 5$$

$$y = -2x - 3 \quad r_1$$

$$m_2 = -6$$

$$y = -6x - 24 + 5$$

$$y = -6x - 19 \quad r_2$$

9. P: $y = x^2 - 3x + 2$ trovare

l'eq. della retta ty nel suo

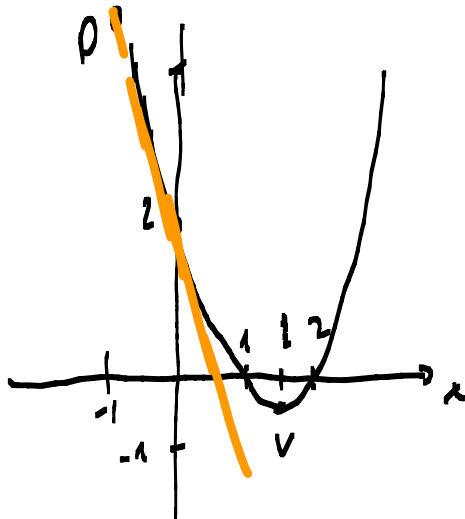
punto di ascisse -1 .

$$x_v = \frac{-b}{2a} = \frac{3}{2} \quad y_v = \frac{9}{4} - \frac{9}{2} + 2 = \frac{9 - 18 + 8}{4} = -\frac{1}{4}$$

$$V \left(\frac{3}{2}; -\frac{1}{4} \right)$$

\uparrow

$$P \left(\begin{array}{c|c} x & y \\ \hline 0 & 2 \\ 1 & 0 \\ -1 & 6 \\ 2 & 0 \end{array} \right)$$



passa per $P(-1; 6)$

$$y - 6 = m(x + 1)$$

$$y = mx + m + 6$$

$$\begin{cases} y = mx + m + 6 \\ y = x^2 - 3x + 2 \end{cases}$$

$$x^2 - 3x + 2 = mx + m + 6$$

$$x^2 - 3x - mx + 2 - 6 - m = 0$$

$$x^2 - (3+m)x - (4+m) = 0$$

cond 1) $\Delta = 0$

$$b^2 - 4ac = (3+m)^2 - 4(-)(4+m) = 0$$

$$9 + 6m + m^2 + 16 + 4m = 0$$

$$m^2 + 10m + 25 = 0$$

$$(m+5)^2 = 0 \quad m+5 = 0 \quad \boxed{m = -5}$$

$$M_{1,2} = \frac{-10 \pm \sqrt{100 - 100}}{2} = \frac{-10 \pm 0}{2} = -5$$
$$y = m_1 x - 5x + 6$$

Ans: $y = -5x + 6$