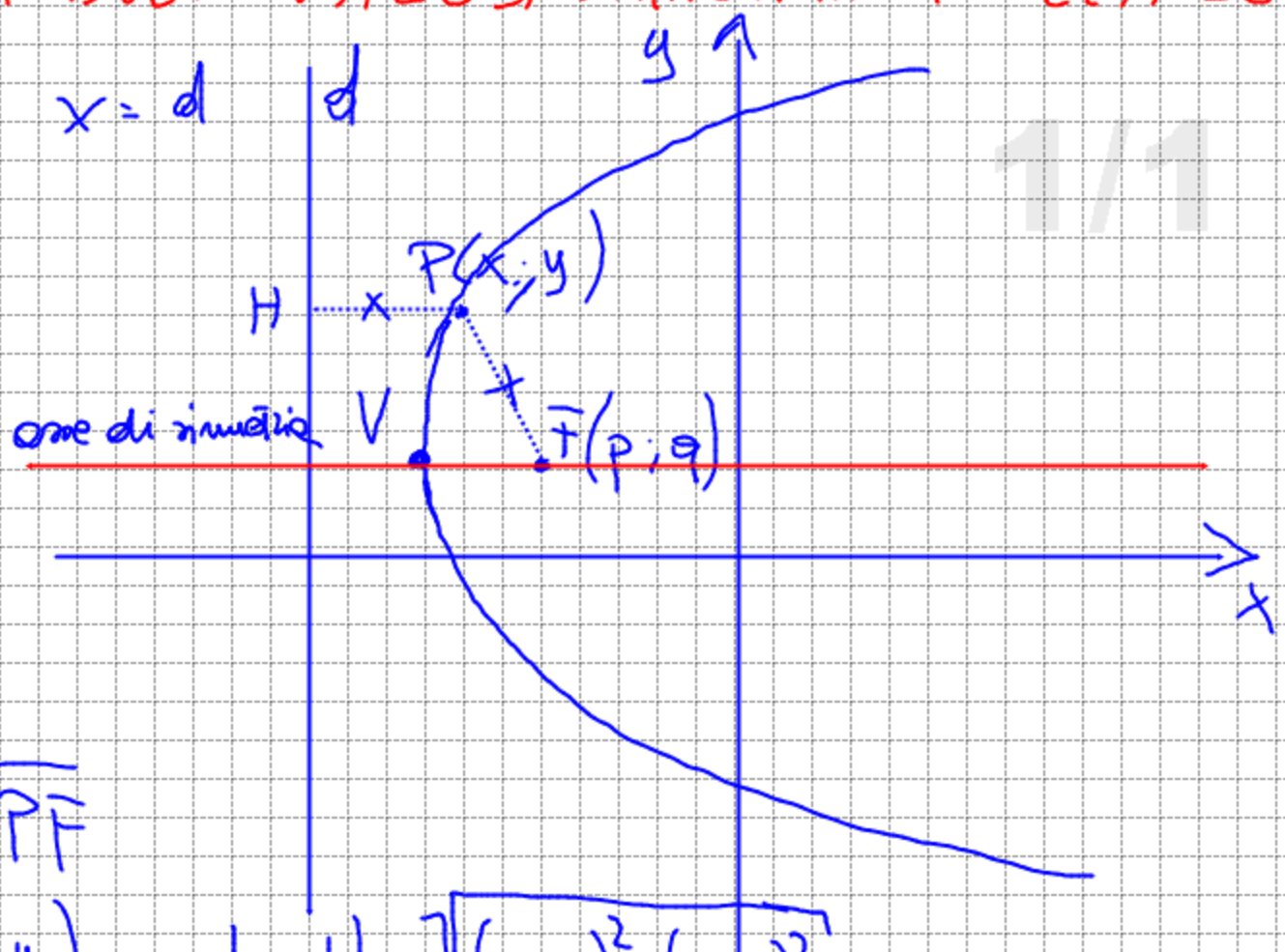
PARABOLA CON ASSE DI SIMMETRIA // ALL'ASSE X:



$\overline{PH} = \overline{PF}$

$H(d;y)$ $\quad |x-d| = \sqrt{(x-p)^2+(y-q)^2}$

$x^2+d^2-2dx = x^2+p^2-2px+y^2+q^2-2qy$

$x(2p-2d) = y^2-2qy+p^2+q^2-d^2$

$$x = \underbrace{\frac{1}{2(p-d)}}_{a}y^2 \underbrace{-\frac{2q}{2(p-d)}}_{b}y + \underbrace{\frac{p^2+q^2-d^2}{2(p-d)}}_{c}$$

$x = ay^2+by+c$

$$\begin{cases} a = \dfrac{1}{2(p-d)} \\ b = \dfrac{-q}{p-d} \\ c = \dfrac{p^2+q^2-d^2}{2(p-d)} \end{cases} \qquad \begin{cases} p = \dots\dots \\ q = \dots\dots \\ d = \dots\dots \end{cases}$$

$x = ay^2+by+c$ eq. parabole con asse di simmetria // all'asse X;

$V\left(-\dfrac{\Delta}{4a}; -\dfrac{b}{2a}\right)$

asse di simmetria $y = -\dfrac{b}{2a}$

fuoco $F\left(\dfrac{1-\Delta}{4a}; -\dfrac{b}{2a}\right)$

direttrice d: $x = \dfrac{-1-\Delta}{4a}$