PAG. 256 N 81

$y = -2x^2 + x + 1$

$\begin{cases} y = -2(0)^2 + 0 + 1 = 1 \\ x = 0 \end{cases}$ $P(0,1)$

$\begin{cases} y = -2x^2 + x + 1 \\ y - 1 = m(x - 0) \end{cases}$

$\begin{cases} \text{''} \\ y = mx + 1 \end{cases}$

$-2x^2 + x + 1 = mx + 1$

$-2x^2 + x - mx = 0$

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

$\Delta = 0$

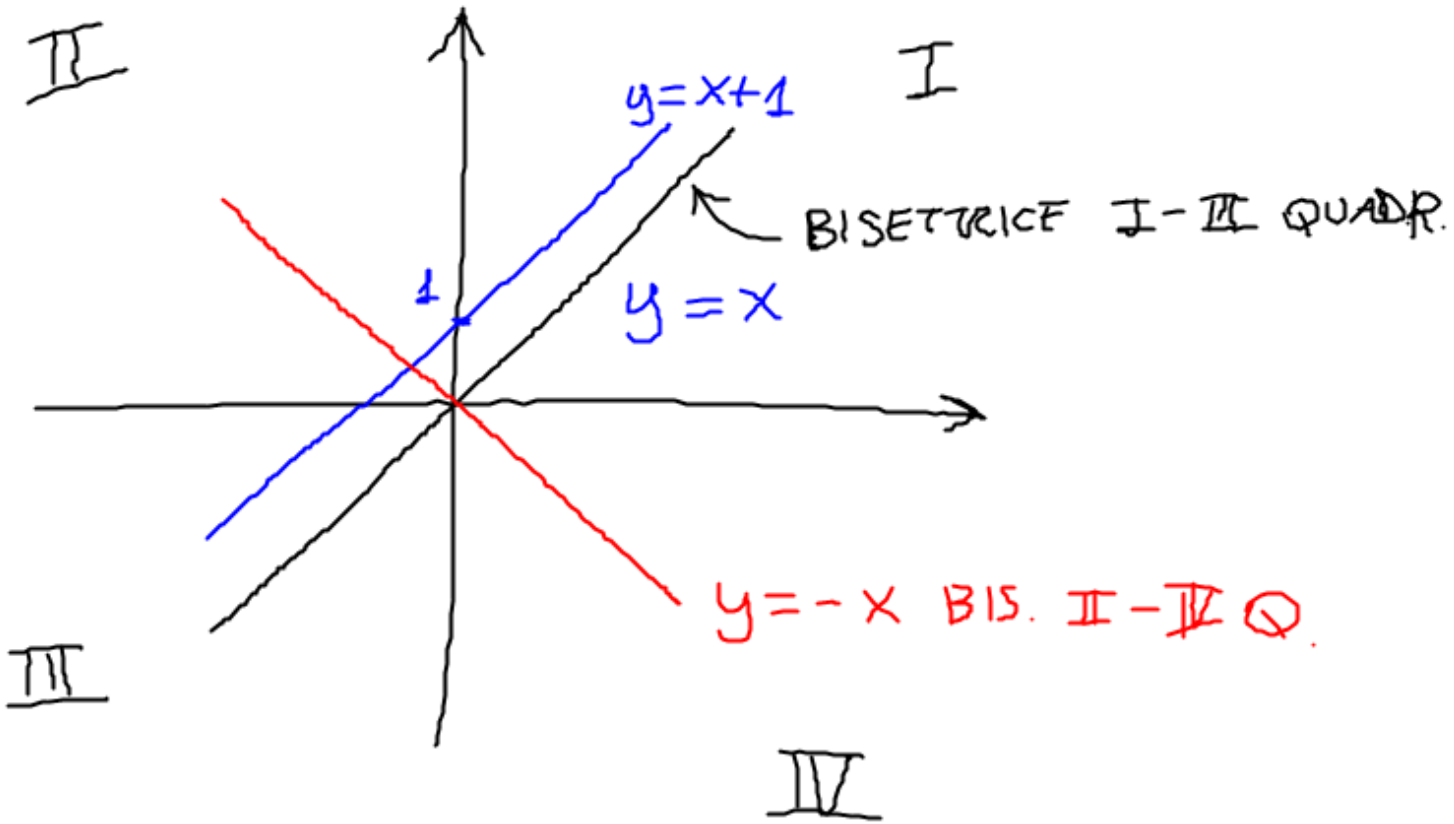
$(1-m)^2 = 0$

$m^2 - 2m + 1 = 0$

$\Delta = 4 - 4 = 0$

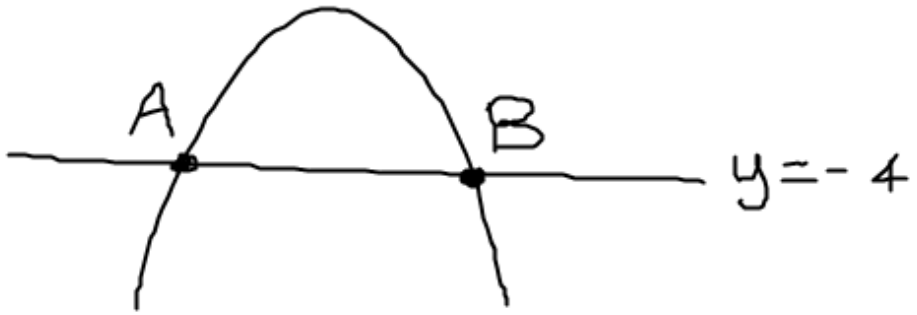
$m = \frac{2 \pm 0}{2} = 1$

$\boxed{y = x + 1}$


II
I
y=x+1
BISETTRICE I-III QUADR.
1
y=x
y=-x BIS. II-IV Q.
III
IV

N. 82

$$\begin{cases} y = -x^2 + 3x \\ y = -4 \end{cases}$$



$$-4 = -x^2 + 3x$$

$$B(4, -4)$$

$$x^2 - 3x - 4 = 0$$

$$(x-4)(x+1) = 0$$

$$x = 4 \vee x = -1$$

$$\left[\Delta = 9 + 16 = 25 \quad x = \frac{3 \pm 5}{2} = \begin{cases} 4 \\ -1 \end{cases} \right]$$

$$\begin{cases} y = -x^2 + 3x \\ y + 4 = m(x-4) \end{cases} \qquad \begin{cases} y = -x^2 + 3x \\ y = mx - 4m - 4 \end{cases}$$

$$mx - 4m - 4 = -x^2 + 3x$$

$$mx - 4m - 4 = -x^2 + 3x$$

$$x^2 - 3x + mx - 4m - 4 = 0$$

$$x^2 + \underbrace{(m-3)}_{b}x \underbrace{- 4m - 4}_{c} = 0$$

$a = 1$

$$\Delta = 0 \Rightarrow (m-3)^2 - 4 \cdot 1 \cdot (-4m - 4) = 0$$

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

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

$$(m+5)^2 = 0$$

$$m = -5$$

$$\left[\Delta = 100 - 100 = 0 \quad m = \frac{-10}{2} = -5 \right]$$

$$y = mx - 4m - 4 \Rightarrow y = -5x + 20 - 4$$

$$\boxed{y = -5x + 16}$$

EQ. DELLA PARABOLA DATI 3 PUNTI

PAG. 258 N 93

Trovare la parabola per $A(-1,0)$ $B(0,5)$ $C(2,3)$

(con assi $\parallel$ assi y)

$y = ax^2 + bx + c$

DA TROVARE a b c

PASSAGGIO PER $A(-1,0) \rightarrow$ $0 = a(-1)^2 + b(-1) + c$

$\parallel$ $\parallel$ $B(0,5) \rightarrow$ $5 = a \cdot 0^2 + b \cdot 0 + c$

$\parallel$ $\parallel$ $C(2,3) \rightarrow$ $3 = a \cdot 2^2 + b \cdot 2 + c$

$$\begin{cases} a - b + c = 0 \\ c = 5 \\ 4a + 2b + c = 3 \end{cases}$$

$$\begin{cases} a-b+c=0 \\ c=5 \\ 4a+2b+c=3 \end{cases}$$

$$\begin{cases} a-b+5=0 \\ 4a+2b+5=3 \\ c=5 \end{cases}$$

$$\begin{cases} a=b-5 \\ 4(b-5)+2b+5=3 \\ // \end{cases} \rightarrow 4b-20+2b+5=3$$

$$6b=18 \rightarrow b=3$$

$$\begin{cases} a=3-5=-2 \\ b=3 \\ c=5 \end{cases}$$

$$\boxed{y=-2x^2+3x+5}$$