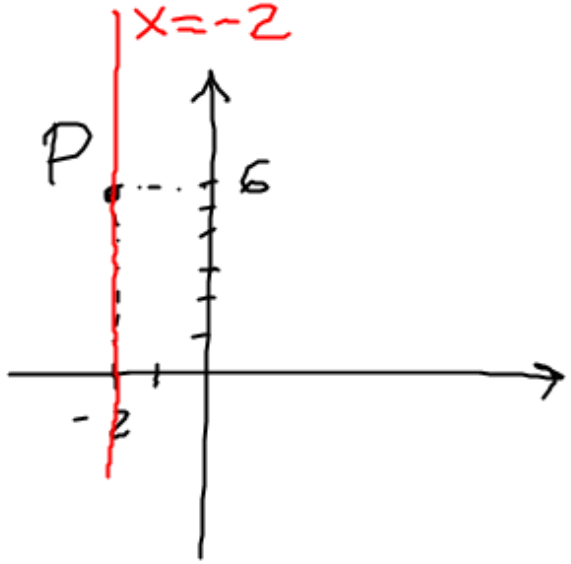
PAG. 255 N 67

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

$P(-2, 6) \rightsquigarrow x = -2$



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

P.TO DI INTERSEZ. $A(-2, -2)$

N 77

$$y = -\frac{1}{2}x^2 - 4x - 6$$

P. TO DI INTERS. CON ASSE $y \rightsquigarrow^{\text{EQ.}} x = 0$

$$\begin{cases} y = -\frac{1}{2}x^2 - 4x - 6 \\ x = 0 \end{cases} \Rightarrow \begin{cases} y = -6 \\ x = 0 \end{cases} \quad A(0, -6)$$

EQ. FASCIO DI RETTE PER A

$$y - y_0 = m(x - x_0)$$

$$y + 6 = m(x - 0) \Rightarrow y = mx - 6$$

$$\begin{cases} y = -\frac{1}{2}x^2 - 4x - 6 \\ y = mx - 6 \end{cases}$$

$$\Rightarrow \quad mx - 6 = -\frac{1}{2}x^2 - 4x - 6$$

$$\frac{1}{2}x^2 + 4x + mx = 0$$

$$\frac{1}{2}x^2 + (4+m)x = 0$$

a $\quad$ b $\quad$ $c = 0$

PONGO $\Delta = 0$

$$b^2 - 4ac = 0$$

$$(4+m)^2 = 0$$

$$m = -4$$

LA RETTA TANGENTE È

$$y = -4x - 6$$

N 79

$$y = x^2 + 4x + 6$$

$$P(-4, 5)$$

1) RETTA PER P

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

$$y = mx + 4m + 5$$

2) SISTEMA RETTA-PARABOLA

$$\begin{cases} y = x^2 + 4x + 6 \\ y = mx + 4m + 5 \end{cases} \Rightarrow x^2 + 4x + 6 = mx + 4m + 5$$

$$x^2 + 4x - mx + 6 - 4m - 5 = 0$$

$$x^2 + \underbrace{(4 - m)}_{b}x + \underbrace{1 - 4m}_{c} = 0$$

$a = 1$

3) $\Delta = 0$

$$x^2 + \underbrace{(4-m)}_{b}x + \underbrace{1-4m}_{c} = 0 \qquad a=1$$

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

$$b^2 - 4 \cdot a \cdot c = 0$$

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

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

$$\Delta = 64 - 48 = 16$$

$$m = \frac{-8 \pm \sqrt{16}}{2} = \frac{-8 \pm 4}{2} = \begin{cases} -6 \\ -2 \end{cases}$$

$y = mx + 4m + 5$

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

$y = -6x - 19$

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

$y = -2x - 3$