

EQUAZIONI DI II GRADO

$$ax^2 + bx + c = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \rightarrow \Delta$$

$$x^2 + 5x + 6 = 0$$

$$a = 1$$

$$b = 5$$

$$c = 6$$

$$\Delta = b^2 - 4ac$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Se $\Delta > 0 \Rightarrow 2$ sol. DIST

$$x_1 = \frac{-b + \sqrt{\Delta}}{2a}$$

$$x_2 = \frac{-b - \sqrt{\Delta}}{2a}$$

Se $\Delta = 0 \Rightarrow 2$ sol. COINC.

$$x_1 = x_2 = -\frac{b}{2a}$$

Se $\Delta < 0 \Rightarrow \emptyset$ IMP in $\mathbb{R}$

Es.

$$a = 1 \quad b = 5 \quad c = -6$$

$$x^2 + 5x - 6 = 0$$

$$\Delta = 25 - 4(1)(-6) = 25 + 24 = 49 > 0$$

$$x = \frac{-5 \pm 7}{2} = \begin{cases} \frac{2}{2} = 1 \\ -\frac{12}{2} = -6 \end{cases}$$

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

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

$$a = 1 \quad b = 4 \quad c = 4$$

$$\Delta = 16 - 16 = 0$$

$$x = -\frac{4 \pm 0}{2} = -2$$

$$\frac{1}{3}x^2 + x + 5 = 0$$

$$x^2 + 3x + 15 = 0$$

$$\Delta = 9 - 60 = -51 < 0$$

$\emptyset$

SCOMPOSIZIONE DI UN POLINOMIO DI II GRADO

$$x^2 + \overset{S}{5}x - \overset{P}{6} = 0$$

$$x = \begin{matrix} / & 1 \\ \backslash & -6 \end{matrix}$$

$$a(x - x_1)(x - x_2)$$

$$1(x - 1) \cdot (x + 6)$$