

Equazioni e disequazioni elementari

1. Polinomiali

$$x^5 = 0$$

$$x^9 = -1$$

$$x^5 < 2$$

$$-x^6 > -1$$

$$3x^4 = 7$$

$$2x^4 + 1 = 0$$

$$x^3 \geq -\frac{1}{8}$$

$$2x^4 + 1 < 0$$

$$11x^6 = -1$$

$$2x^4 - 1 = 0$$

$$x^5 + 1 \leq 0$$

$$2x^4 - 1 \geq 0$$

2. Irrazionali

$$\sqrt[3]{x} = 2$$

$$\sqrt[5]{x} < 2$$

$$3\sqrt[3]{x} + 2 < 0$$

$$2\sqrt{x} = 4$$

$$\sqrt[3]{x} \geq -1$$

$$\sqrt{x} + 1 \geq -6$$

$$\sqrt[4]{x} = -1$$

$$\sqrt[6]{x} \leq 0$$

$$\sqrt[4]{x} < e$$

3. Esponenziali

$$3^x = 81$$

$$2^x = 16$$

$$\pi^x = 0$$

$$(0,5)^x > 0$$

$$10^x - 0,001 \geq 0$$

$$3^x = \frac{1}{9}$$

$$2^x = -16$$

$$7^x = \sqrt[5]{49}$$

$$4^x - 6 \leq 0$$

$$e^x + 4 \leq 0$$

$$\left(\frac{1}{4}\right)^x = 1$$

$$2^x = 3$$

$$4^x = 2$$

$$\left(\frac{2}{5}\right)^x > \frac{25}{4}$$

$$\frac{1}{3^x} > 5$$

4. Logaritmiche

$$\log_3 x = 2$$

$$3\log_2(x) - 9 = 0$$

$$\log x < 5$$

$$\log_{\frac{\pi}{4}} x > 0$$

$$\log_3 x = \frac{1}{2}$$

$$\log_4 x = 0$$

$$\log_{\frac{1}{4}} x \geq -1$$

$$\log x < 0$$

$$\log_{\frac{1}{2}} x = -2$$

$$\log_{\frac{5}{4}} x = -2$$

$$\log_2 x > \frac{1}{3}$$

$$\log_{\sqrt{2}} x \geq 4$$

5. Goniometriche

$$\sin x = -1$$

$$\cos x + 3 = 0$$

$$\tan x = 0$$

$$4 \arctan x - \pi = 0$$

$$4 \arctan x - 4\pi = 0$$

$$\arccos x = 0$$

$$\sin x < 5$$

$$\arcsin x \geq 0$$

$$2 \arcsin x \leq 0$$

$$\arccos x \geq \frac{\pi}{2}$$

$$\cos x \geq (0,3)^{-1}$$

$$\frac{3 \cos x}{10} \geq 1$$

Nota: Il simbolo \log denota il logaritmo in base e (numero di Nepero)