

Equazioni e disequazioni

1. Valore assoluto

$$|12x - 3| = 5$$

$$|4x^2 - 8x + 1| = 0$$

$$|x| = -6$$

$$|x| + |x - 1| \geq 0$$

$$|x| + |x - 1| > 0$$

$$\left| \frac{2x + 1}{x - 4} \right| > 1$$

2. Potenza n-sima

$$x^5 = 4$$

$$3x^4 = 7$$

$$11x^6 = -1$$

$$(4x - 1)^3 = 27$$

$$(x^2 - 1)^2 = 3$$

$$(4x^2 + x + 1)^2 = -4$$

$$x^5 < 2$$

$$x^5 \geq -\frac{1}{2}$$

$$(4x + 1)^3 > 5$$

3. Radice n-sima

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

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

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

$$\sqrt[5]{2x + 10} = 2$$

$$\sqrt[3]{4x^2 + x + 1} = -1$$

$$\sqrt[6]{x^2 - 1} \leq 0$$

$$\sqrt[3]{x} < -\frac{2}{3}$$

$$\sqrt{5x + 6} \geq -6$$

$$\sqrt[4]{x^2 + x} < 1$$

4. Esponenziali e Logaritmi

$$3^x = 81$$

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

$$\left(\frac{1}{2}\right)^x = 1$$

$$2^{3x-4} = 16$$

$$2^{3x-4} = -16$$

$$2^{3x-4} = 3$$

$$\log_3 x = 2$$

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

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

$$\log_2(6x + 4) = 3$$

$$\log_4(2x^2 - x + 1) = 0$$

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

$$7^{8x+5} \geq 1$$

$$\left(\frac{2}{5}\right)^{6x} < \frac{4}{25}$$

$$4^{x^2-3} > 5$$

$$\pi^{\frac{x+1}{x-1}} \geq \pi^2$$

$$\left(\frac{\pi}{4}\right)^{\frac{1}{x^2-1}} < 1$$

$$10^{4x^2+5x+2} \leq 0,001$$

$$\log x < 5$$

$$\log_{\frac{1}{4}}(3x) \geq -1$$

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

$$\log_4(x + 9) > 0$$

$$\log(6x^2 + x) < 0$$

$$\log_{\sqrt{2}}\left(\frac{2x-3}{x}\right) > 2$$

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