

Diseguazioni biquadratiche

1	$x^4 - 2x^2 + 1 \leq 0$	$x = \pm 1$
2	$x^4 - 3x^2 - 4 \geq 0$	$x \leq -2 \vee x \geq 2$
3	$x^4 - x^2 - 2 < 0$	$-\sqrt{2} < x < \sqrt{2}$
4	$4x^4 - 17x^2 + 18 \geq 0$	$x \leq -\frac{3}{2} \vee -\sqrt{2} \leq x \leq \sqrt{2} \vee x \geq \frac{3}{2}$
5	$2x^4 - 31x^2 - 16 < 0$	$-4 < x < 4$
6	$5x^4 - 16x^2 + 3 > 0$	$x < -\sqrt{3} \vee -\frac{\sqrt{5}}{5} < x < \frac{\sqrt{5}}{5} \vee x > \sqrt{3}$
7	$10x^4 + 11x^2 + 3 < 0$	<i>impossibile</i>
8	$10x^4 - 11x^2 + 3 \geq 0$	$x \geq -\frac{\sqrt{15}}{5} \vee -\frac{\sqrt{2}}{2} \leq x \leq \frac{\sqrt{2}}{2} \vee x \geq \frac{\sqrt{15}}{5}$
9	$x^4 - 5x^2 + 4 < 0$	$-2 < x < -1 \vee 1 < x < 2$
10	$x^4 - 4x^2 + 3 > 0$	$x < -\sqrt{3} \vee -1 < x < 1 \vee x > \sqrt{3}$
11	$(x^2 + 1)(x^2 - 4) \geq 0$	$x \leq -2 \vee x \geq 2$
12	$(x^2 + 1)^2 - 4(2 - x^2) \leq 0$	$-1 \leq x \leq 1$
13	$(2x^2 - 3)(x^2 + 1) + x^2(1 - x^2) < 0$	$-\sqrt[4]{3} < x < \sqrt[4]{3}$
14	$\frac{2x^4 - 3x^2 + 1}{x^4 - 2x^2 + 1} \leq 0$	$-1 < x \leq -\frac{\sqrt{2}}{2} \vee \frac{\sqrt{2}}{2} \leq x < 1$
15	$\frac{4x^4 - 13x^2 - 75}{x^4 - 5x^2 + 4} \geq 0$	$x \leq -\frac{5}{2} \vee -2 < x < -1 \vee 1 < x < 2 \vee x \geq \frac{5}{2}$
16	$\frac{(x^2 - 2)(1 + x^2)}{3(2x^2 - 1)} < \frac{(x^2 + 1)}{(1 - 2x^2)}$	$-\frac{\sqrt{2}}{2} < x < \frac{\sqrt{2}}{2}$
17	$(x^2 - 3)(x^2 - 2) < 0$	$-\sqrt{3} < x < -\sqrt{2} \vee \sqrt{2} < x < \sqrt{3}$

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18	$(2x^2 + 3)(x^2 - 2) \leq 0$	$-\sqrt{2} \leq x \leq \sqrt{2}$
19	$x^4 - 8x^2 - 9 > 0$	$x < -3 \vee x > 3$
20	$x^4 - 9x^2 + 20 \leq 0$	$-\sqrt{5} \leq x \leq -2 \vee 2 \leq x \leq \sqrt{5}$
21	$x^4 + x^2 + 1 < 0$	<i>impossibile</i>
22	$x^4 - 12x^2 + 27 \geq 0$	$x \leq -3 \vee -\sqrt{3} \leq x \leq \sqrt{3} \vee x \geq 3$
23	$5x^4 + 3x^2 + \sqrt{2} > 0$	$\forall x \in \mathbb{R}$
24	$x^4 - 14x^2 - 32 < 0$	$-4 < x < 4$
25	$x^4 + 2x^2 - 3 \leq 0$	$-1 \leq x \leq 1$
26	$4x^4 - 5x^2 + 1 \geq 0$	$x \leq -1 \vee -\frac{1}{2} \leq x \leq \frac{1}{2} \vee x \geq 1$
27	$(x^2 - 1)(16x^2 - 1) < 0$	$-1 < x < -\frac{1}{4} \vee \frac{1}{4} < x < 1$
28	$(x^2 - 1)^2 + 4x^2(1 - x^2) \leq 0$	$x \leq -1 \vee x \geq 1$
29	$(x^2 + 2)^2 - (2 + 7x^2) > 0$	$x < -\sqrt{2} \vee -1 < x < 1 \vee x > \sqrt{2}$
30	$\frac{x^4 + x^2 - 2}{x^4 - 3x^2 - 4} > 0$	$x < -2 \vee -1 < x < 1 \vee x > 2$
31	$x^4 + 2a^2x^2 - 3a^4 > 0$	$x < - a \vee x > a $