

## DISEQUAZIONI DI 2° GRADO

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| 1  | $25 - x^2 \leq 0$  | $[x \leq -5 \vee x \geq 5]$                        |
| 2  | $16x^2 - 40x + 25 > 0$   | $\left[ x \neq \frac{5}{4} \right]$                |
| 3  | $3x(2x+5) \geq 0$  | $\left[ x \leq -\frac{5}{2} \vee x \geq 0 \right]$ |
| 4  | $\frac{(x-1)^3}{4} > \frac{(x+3)^3}{4} - 15x - 7$                                  | $[0 < x < 3]$                                      |
| 5  | $(2x-1)(x+3) < 0$  | $\left[ -3 < x < \frac{1}{2} \right]$              |
| 6  | $(3x-2)^2 - 5x + (2x-1)^2 < -3$  | $\left[ \frac{8}{13} < x < 1 \right]$              |
| 7  | $6(x-1) - 5(x^2 - 5x + 6) + 10 < 0$  | $\left[ x < 1 \vee x > \frac{26}{5} \right]$       |
| 8  | $2x(x+4) + x(x-7) > 30$  | $\left[ x < -\frac{10}{3} \vee x > 3 \right]$      |
| 9  | $2x^2 < 3(9-x)$  | $\left[ -\frac{9}{2} < x < 3 \right]$              |
| 10 | $(4x-1)^2 + (3x-2)^2 < 5(7-5x^2)$  | $\left[ -\frac{3}{5} < x < 1 \right]$              |
| 11 | $\frac{x-1}{5} + \frac{1}{3} < \frac{x^2-5x+6}{6}$                                 | $\left[ x < 1 \vee x > \frac{26}{5} \right]$       |
| 12 | $\frac{(x-1)(15x-53)}{14} - \frac{7}{6}(8x-x^2-7) + \frac{(x-1)(17-2x)}{3} < 0$    | $[1 < x < 4]$                                      |
| 13 | $3+7x(x+1) - 2x(x-4) + 3(3-x^2) > 25x$   | $[x < 2 \vee x > 3]$                               |
| 14 | $\frac{3x^2-2}{16} > \frac{x-3}{9}$  | $[\forall x \in \mathbb{R}]$                       |
| 15 | $(x-\sqrt{3})^2 + \frac{1}{2}(x+\sqrt{3})^2 < \frac{1}{3}(x+\sqrt{3})(x-\sqrt{3})$ | $[impossibile]$                                    |

## DISEQUAZIONI DI GRADO SUPERIORE AL SECONDO

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| 16 | $3x^3 - 5x^2 + 2x < 0$        | $\left[ x < 0 \vee \frac{2}{3} < x < 1 \right]$                                   |
| 17 | $(x+2)(3x^2 - 4x - 7) < 0$    | $\left[ x < -2 \vee -1 < x < \frac{7}{3} \right]$                                 |
| 18 | $4x^3 - 4x^2 - 3x + 3 \leq 0$ | $\left[ x \leq -\frac{\sqrt{3}}{2} \vee \frac{\sqrt{3}}{2} \leq x \leq 1 \right]$ |
| 19 | $8x^3 - 12x^2 + 6x - 1 > 0$   | $\left[ x > \frac{1}{2} \right]$  |

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| 20 | $(x-5)(4x^2-9x+5)(x^2-16) < 0$                                       | $\left[ x \leq -4 \vee 1 \leq x \leq \frac{5}{4} \vee 4 \leq x \leq 5 \right]$ |
| 21 | $(x^2+4)(x^2-25)(x^2-3x+2) < 0$                                      | $[x \leq -5 \vee 1 \leq x \leq 2 \vee x \geq 5]$                               |
| 22 | $x^4 - 13x^2 + 36 \geq 0$  | $[x \leq -3 \vee -2 \leq x \leq 2 \vee x \geq 3]$                              |
| 23 | $x^4 - 26x^2 + 25 < 0$   | $[-5 < x < -1 \vee 1 < x < 5]$   |
| 24 | $(7x^2-9x+2)(x^2-36)(x^2+1) \leq 0$                                  | $\left[ -6 \leq x \leq \frac{2}{7} \vee 1 \leq x \leq 6 \right]$               |
| 25 | $\left( \frac{1}{2}x^2 + \frac{1}{2}x - 3 \right) (x+2)(x^2-25) < 0$ | $[x < -5 \vee -3 < x < -2 \vee 2 < x < 5]$                                     |

DISEQUAZIONI FRATTE
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| 26 | $\frac{3x^2-x-2}{6x^2-x-7} > 0$                         | $\left[ x < -1 \vee -\frac{2}{3} < x < 1 \vee x > \frac{7}{6} \right]$ |
| 27 | $\frac{5x-2}{x-6} < 3$                                  | $[-8 < x < 6]$   |
| 28 | $\frac{10}{x^2-9} < \frac{x+2}{x-3} - \frac{x+4}{x+3}$  | $[-3 < x < -2 \vee x > 3]$   |
| 29 | $\frac{x^2+1}{x^2-2x-3} > 0$                            | $[x < -1 \vee x > 3]$  |
| 30 | $\frac{x-1}{x^2-2x-8} \leq 0$                           | $[x < -2 \vee 1 \leq x < 4]$   |
| 31 | $\frac{8+3x^2}{4x^2-x-3} > 0$                           | $\left[ -\frac{3}{4} < x < 1 \right]$                                  |
| 32 | $\frac{8}{x+6} + \frac{12-x}{x-6} > 1$                  | $[-6 < x < -3 \vee 6 < x < 10]$  |
| 33 | $\frac{2}{x-3} - \frac{3}{x+2} > \frac{25-4x}{x^2-x-6}$ | $[-2 < x < 3 \vee x > 4]$  |
| 34 | $\frac{5}{x-3} - \frac{8}{x-6} > 9$                     | $\left[ 3 < x < 4 \vee \frac{14}{3} < x < 6 \right]$                   |
| 35 | $\frac{x-1}{x+1} + \frac{4}{x} < \frac{1}{3}$           | $[-1 < x < 0]$   |