

Esercitazione sulle equazioni a coefficienti reali risolte nel campo complesso

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| 1) $(x+1)^2 + (x+2)^2 = 0$ | $S = \left\{ -\frac{3}{2} - \frac{1}{2}i; -\frac{3}{2} + \frac{1}{2}i \right\}$ |
| 2) $(3-x)^2 + 4 = 0$ | |
| 3) $1 + \frac{1}{x} + \frac{1}{x^2} = 0$ | $S = \{-1 - \sqrt{3}i; -1 + \sqrt{3}i\}$ |
| 4) $x^2 + 5 = -x$ | |
| 5) $9x^2 + 1 = 0$ | $S = \left\{ -\frac{1}{3}i; +\frac{1}{3}i \right\}$ |
| 6) $x^3 + x + 2 = 0$ | |
| 7) $x^3 - 3x^2 + 6x - 4 = 0$ | $S = \{1; 1 - i\sqrt{3}; 1 + i\sqrt{3}\}$ |
| 8) $x^3 + 4x = 0$ | |
| 9) $x^3 + x^2 + 4x + 4 = 0$ | $S = \{-1; -2i; 2i\}$ |
| 10) $x^3 - 1 = 0$ | |
| 11) $2x^3 - x^2 + 18x - 9 = 0$ | $S = \left\{ \frac{1}{2}; -3i; 3i \right\}$ |
| 12) $3x^3 - 11x^2 + 11x + 5 = 0$ | |
| 13) $2x^3 - 6x^2 + x - 3 = 0$ | $S = \left\{ 3; -i\frac{\sqrt{2}}{2}; \frac{\sqrt{2}}{2}i \right\}$ |
| 14) $x^4 + 3x^2 - 10 = 0$ | |
| 15) $4x^4 - x^2 - 3 = 0$ | $S = \left\{ -1; 1; -i\frac{\sqrt{3}}{2}; i\frac{\sqrt{3}}{2} \right\}$ |
| 16) $5x^4 + 2x^2 - 7 = 0$ | |
| 17) $4x^4 + 45x^2 + 81 = 0$ | $S = \left\{ -3i; 3i; -\frac{3}{2}i; \frac{3}{2}i \right\}$ |
| 18) $x^4 + 1 = 0 \rightarrow (x^2 + 1)^2 - 2x^2 = 0$ | |
| 19) $5x^5 + 5x^4 + 7x^3 + 7x^2 + 2x + 2 = 0$ | $S = \left\{ -1; -i; i; -\frac{\sqrt{10}}{5}i; \frac{\sqrt{10}}{5}i \right\}$ |
| 20) $x^6 - 26x^3 - 27 = 0$ | |