

ESERCIZI IN PIÙ

I SISTEMI DI GRADO SUPERIORE AL PRIMO

Risolvi i seguenti sistemi.

$$1 \quad \begin{cases} \frac{1}{2}x - y + \sqrt{2} = \frac{\sqrt{2}}{2} \\ \sqrt{2}(y+2)(y-2) = 3x - 4\sqrt{2} \end{cases} \quad \left[\left(2\sqrt{2} - \sqrt{6}; \frac{3\sqrt{2} - \sqrt{6}}{2} \right), \left(2\sqrt{2} + \sqrt{6}; \frac{3\sqrt{2} + \sqrt{6}}{2} \right) \right]$$

$$2 \quad \begin{cases} x^2 + y^2 = 8 \\ xy = -2 \end{cases} \quad [(1 + \sqrt{3}; 1 - \sqrt{3}), (1 - \sqrt{3}; 1 + \sqrt{3}), (-1 - \sqrt{3}; -1 + \sqrt{3}), (-1 + \sqrt{3}; -1 - \sqrt{3})]$$

$$3 \quad \begin{cases} 3x^2 + xy + y^2 = 15 \\ \frac{2}{3}x^2 - xy + 2y^2 = 5 \end{cases} \quad [(\sqrt{3}; \sqrt{3}), (-\sqrt{3}; -\sqrt{3}), \left(5\sqrt{\frac{15}{71}}; -\sqrt{\frac{15}{71}} \right), \left(-5\sqrt{\frac{15}{71}}; \sqrt{\frac{15}{71}} \right)]$$

$$4 \quad \begin{cases} x + y = \frac{1}{3} \\ x^3 + y^3 = \frac{7}{27} \end{cases} \quad \left[\left(-\frac{1}{3}; \frac{2}{3} \right), \left(\frac{2}{3}; -\frac{1}{3} \right) \right]$$

$$5 \quad \begin{cases} x + y = 2 \\ x^3 + y^3 = \frac{13}{2} \end{cases} \quad \left[\left(\frac{2 + \sqrt{3}}{2}; \frac{2 - \sqrt{3}}{2} \right), \left(\frac{2 - \sqrt{3}}{2}; \frac{2 + \sqrt{3}}{2} \right) \right]$$

$$6 \quad \begin{cases} x^2 + y^2 = 5 \\ xy = 2 \end{cases} \quad [(2; 1), (1; 2), (-2; -1), (-1; -2)]$$

$$7 \quad \begin{cases} x^2 + y^2 = 45 \\ xy = 18 \end{cases} \quad [(6; 3), (3; 6), (-3; -6), (-6; -3)]$$

$$8 \quad \begin{cases} -22x^2 - 9xy + y^2 = 0 \\ +18x^2 + 7xy - y^2 = 0 \end{cases} \quad [(\alpha; -2\alpha), \forall \alpha \in \mathbb{R}]$$

$$9 \quad \begin{cases} -4x^2 - 3xy + y^2 = 0 \\ 35x^2 + 4xy - 4y^2 = -13 \end{cases} \quad [(1; 4), (-1; -4)]$$

$$10 \quad \begin{cases} xy + x^2 = 0 \\ y^2 - 3xy + 5x^2 = 4 \end{cases} \quad [(0; 2), (0; -2), \left(\frac{2}{3}; -\frac{2}{3} \right), \left(-\frac{2}{3}; \frac{2}{3} \right)]$$

$$11 \quad \begin{cases} y^2 - xy + x^2 = 42 \\ y^2 - xy - 20x^2 = 0 \end{cases} \quad [(\sqrt{2}; 5\sqrt{2}), (-\sqrt{2}; -5\sqrt{2}), (\sqrt{2}; -4\sqrt{2}), (-\sqrt{2}; 4\sqrt{2})]$$

$$12 \quad \begin{cases} -x^2 + 2xy + 3y^2 = 0 \\ -9x^2 - 3xy + 2y^2 = -8 \end{cases} \quad \left[\left(\frac{3\sqrt{11}}{11}; \frac{\sqrt{11}}{11} \right), \left(-\frac{3\sqrt{11}}{11}; -\frac{\sqrt{11}}{11} \right), (\sqrt{2}; -\sqrt{2}), (-\sqrt{2}; \sqrt{2}) \right]$$