

Esercitazione sulle equazioni e le disequazioni irrazionali

Equazioni

$$1) \sqrt{3x+12} - \sqrt{-x} = 2 \quad S = \{-1\}$$

$$2) \sqrt{3x+7} + \sqrt{4-x} = 5 \quad S = \left\{\frac{7}{4}; 3\right\}$$

$$3) \frac{x - \sqrt{x^2 - 1}}{x + 2} + \frac{x}{x + \sqrt{x^2 - 1}} = 0 \quad S = \{-1\}$$

$$4) \frac{1}{\sqrt{x-x}} + \frac{3}{x + \sqrt{x}} = 0 \quad S = \{4\}$$

$$5) x^3 \sqrt{7 - \frac{1}{x}} = -2 \quad S = \{-1\}$$

$$6) \sqrt{4x^2 - 6x} = 4x + 4 \quad S = \left\{-\frac{1}{2}\right\}$$

Disequazioni

$$1) 3x - \sqrt{1-x^2} \geq 0 \quad S = \left[\frac{1}{\sqrt{10}}; 1\right]$$

$$2) \sqrt{5x+7} \geq \frac{5}{2}x + 2 \quad S = \left[-\frac{7}{5}; \frac{2}{5}\right]$$

$$3) \frac{1+x-\sqrt{2x^2+1}}{1-\sqrt{3-x}} < 0 \quad S =]0; 2[\cup]2; 3[$$

$$4) \frac{x - \sqrt{x^3 - 2x}}{|x+2| - x^2} \geq 0 \quad S = [-\sqrt{2}; -1[\cup [\sqrt{2}; 2[\cup]2; +\infty[$$