

8

$$x^7 + 4 = 0$$

grado dispari

⇓

1 soluzione reale

$$x^7 = -4$$

$$x = \sqrt[7]{-4} = -\sqrt[7]{4}$$

9

$$x^8 - 4 = 0$$

grado pari: può avere

2 solus. reali

oppure nessuna sol. reale

$$x^8 = 4$$

$$x = \pm \sqrt[8]{4} = \pm \sqrt[4]{2} = \pm \sqrt[4]{2}$$

10

$$x^6 + 8 = 0$$

$$x^6 = -8 \quad \text{IMPOSSIBILE (nessuna soluzione reale)}$$

12

$$9x^4 - 25 = 0$$

$$9x^4 = 25$$

$$x^4 = \frac{25}{9}$$

$$x = \pm \sqrt[4]{\frac{25}{9}} = \pm \sqrt[4]{\left(\frac{5}{3}\right)^2} = \pm \sqrt{\frac{5}{3}}$$

$$19 \quad x^7 + \sqrt{2} = 0$$

$$x^7 = -\sqrt{2}$$

$$x = \sqrt[7]{-\sqrt{2}} = -\sqrt[7]{\sqrt{2}} = -\sqrt[14]{2}$$

$$20 \quad x^6 + \sqrt{3} - \sqrt{2} = 0$$

$$x^6 = \underbrace{\sqrt{2} - \sqrt{3}}_{< 0} \quad \text{IMPOSSIBLE}$$

$$52 \quad (2x - 1)^3 = 8$$

$$t = 2x - 1$$

$$t^3 = 8$$

$$t = \sqrt[3]{8} = 2$$

$$t = 2$$

$$2x - 1 = 2$$

$$2x = 3$$

$$x = \frac{3}{2}$$

63

$$(x^3 - 2)^4 = 1$$

$$t = x^3 - 2$$

$$t^4 = 1$$

$$t = \pm \sqrt[4]{1} = \pm 1$$

$$t = -1$$

∨

$$t = 1$$

$$x^3 - 2 = -1$$

$$x^3 - 2 = 1$$

$$x^3 = 1$$

$$x^3 = 3$$

$$x = \sqrt[3]{1} = 1$$

$$x = \sqrt[3]{3}$$

$$x = 1 \quad \vee \quad x = \sqrt[3]{3}$$