OPERAZIONI CON I RADICALI

1 $\sqrt[6]{\dfrac{x^4+y^4-2x^2y^2}{x^4y^4}}:\sqrt[3]{\dfrac{x^2+y^2-2xy}{xy}}$ $\left[\sqrt[3]{\dfrac{x+y}{xy(x-y)}}\right]$

2 $\sqrt[4]{\dfrac{a+2b}{a^2-4b^2}}\cdot\sqrt[3]{\dfrac{a-2b}{a+2b}}\cdot\sqrt[12]{\dfrac{a^3-2a^2b}{b^2}}$ $\left[\sqrt[6]{\dfrac{a(a-2b)}{b(a+2b)^2}}\right]$

3 $\left(\sqrt{x^2-1}:\sqrt[3]{x^2-4}\right):\left(\sqrt[3]{x^2-1}:\sqrt{x^2-4}\right)$ $\left[\sqrt[6]{(x^2-1)(x^2-4)}\right]$

4 $\sqrt[3]{\dfrac{x^2y+xy^2}{4x^3}}\cdot\sqrt[4]{\dfrac{x^2+y^2-2xy}{x^2+y^2+2xy}}:\sqrt[6]{\dfrac{(x-y)^3}{4x^3}}$ $\left[\sqrt[6]{\dfrac{y^2}{4x(x+y)}}\right]$

5 $\sqrt[4]{\dfrac{y}{x}\sqrt{\dfrac{x}{y}}}$ $\qquad\sqrt{\dfrac{2x^2}{9}\sqrt[6]{\dfrac{x}{3}}}$ $\left[\sqrt[8]{\dfrac{y}{x}}\right]$; $\left[\dfrac{x}{3}\sqrt[12]{\dfrac{64x}{3}}\right]$

6 $\dfrac{a^2}{b^2}\cdot\sqrt[3]{\dfrac{a^4}{b^4}\sqrt{\dfrac{a^2}{b^2}}}$ $\qquad\sqrt{(a^2-b^2)\sqrt[3]{\dfrac{1}{a-b}}}$ $\left[\dfrac{a^3}{b^3}\sqrt[3]{\dfrac{a^2}{b^2}}\right]$; $\left[\sqrt[6]{(a-b)^2(a+b)^3}\right]$

7 $5\sqrt[3]{x}-6\sqrt{x}-\sqrt[6]{x^2}+\sqrt[6]{x^3}-4\sqrt[3]{x}+7\sqrt{x}$ $\left[2\sqrt{x}\right]$

8 $\sqrt[4]{a^3b}-4\sqrt[3]{a^2b^2}+3\sqrt[4]{a^3b}+2\sqrt[3]{a^2b^2}-4\sqrt[4]{a^3b}$ $\left[-2\sqrt[3]{a^2b^2}\right]$

9 $\sqrt{12x+8y}+\sqrt{75x+50y}-2\sqrt{27x+18y}$ $\left[\sqrt{3x+2y}\right]$

10 $\sqrt{75x-25}-\sqrt{12x-4}+\sqrt{3x^3-x^2}$ $\left[(x+3)\sqrt{3x-1}\right]$

11 $\sqrt{4y^3-4y^2}+\sqrt{9y^3-9y^2}+5\sqrt{y-1}$ $\left[5(y+1)\sqrt{y-1}\right]$

12 $\sqrt{a^5+a^4}-\sqrt{4a^3+4a^2}+\sqrt{a+1}$ $\left[(a-1)^2\sqrt{a+1}\right]$

13 $\sqrt[3]{(x+y)^4(x-y)^3}+2x\sqrt[3]{(x+y)}-x^2\sqrt[6]{(x+y)^2}$ $\left[(2x-y^2)\sqrt[3]{x+y}\right]$

14 $(2\sqrt{5}+\sqrt{6}-4\sqrt{3})(\sqrt{5}-\sqrt{3})+3(2\sqrt{15}+\sqrt{2})$ $\left[\sqrt{30}+22\right]$

15 $3\sqrt{6}(\sqrt{6}-\sqrt{3}+2\sqrt{2})-6\sqrt{2}(\sqrt{6}+\sqrt{2})+9\sqrt{2}$ $\left[6\right]$

16 $2\sqrt{5}(\sqrt{10}+\sqrt{15}+\sqrt{3})-\sqrt{3}(10+3\sqrt{6}+\sqrt{20})$ $\left[\sqrt{2}\right]$

17 $\left(\sqrt[4]{2}-\sqrt{2}\right)^2+\sqrt[4]{8}\left(\sqrt[4]{8}-\sqrt[4]{2}\right)-\sqrt{2}\left(3-2\sqrt[4]{2}\right)$ $\left[0\right]$

18 $(\sqrt{x}+2\sqrt{y})(\sqrt{x}-2\sqrt{y})+3(\sqrt{x}+\sqrt{y})^2$ $\left[4x-y+6\sqrt{xy}\right]$

19 $\left(2\sqrt{a}+\dfrac{1}{3}\sqrt{b}\right)\left(3\sqrt{a}-\dfrac{1}{2}\sqrt{b}\right)+(2\sqrt{a}+\sqrt{b})^2-10\left(a+\dfrac{b}{12}\right)$ $\left[4\sqrt{ab}\right]$

20 $(1+x+\sqrt{2x})(1+x-\sqrt{2x})+(\sqrt{1-x}+x-1)(\sqrt{1-x}-x+1)$ $\left[1+x\right]$

21 $\left(\sqrt{16-16x^2}-\sqrt{4-4x^2}-(1-x)\sqrt{\dfrac{1+x}{1-x}}\right):\sqrt{1+x}$ $\left[\sqrt{1-x}\right]$

22 $\left(\sqrt{9x^2-81}-4(x+3)\sqrt{\dfrac{x-3}{x+3}}+\sqrt{4x^2-36}\right):\sqrt{x-3}$ $\left[\sqrt{x+3}\right]$

23 $(1-\sqrt{2})^2+(2\sqrt{2}-3)^2-(3\sqrt{2}-4)(4+3\sqrt{2})$ $\left[18-14\sqrt{2}\right]$

24 $(\sqrt{x}+2)(\sqrt{x}-2)-(\sqrt{x}-1)^2+2(\sqrt{x}+3)$ $\left[4\sqrt{x}+1\right]$

25 $(1-\sqrt{3})^3+(1+\sqrt{3})^3-(2\sqrt{3}-1)^3$ $\left[57-30\sqrt{3}\right]$

EQUAZIONI A COEFFICIENTI IRRAZIONALI

1	$5\sqrt{5}x-\sqrt{20}=\sqrt{45}\quad;\quad \sqrt{27}x-\sqrt{12}=\sqrt{3}(x+1)$	$[1\,;\,3/2]$
2	$\sqrt{2}(x+\sqrt{5})=x-\sqrt{10}+2\sqrt{5}$	$[-2\sqrt{5}]$
3	$(3+\sqrt{3})x=4\sqrt{3}-(\sqrt{3}-3)x$	$[2]$
4	$\sqrt{3}(x-\sqrt{6}+1)=\sqrt{3}(1-x)+\sqrt{18}$	$[\sqrt{6}]$
5	$x(\sqrt{5}-5)+\sqrt{2}(x+1)-\sqrt{2}=\sqrt{125}+x(\sqrt{2}-5)$	$[5]$
6	$2\sqrt{2}x+3+\sqrt{2}=\sqrt{3}x+\sqrt{2}(2\sqrt{3}+1)$	$[\sqrt{3}]$
7	$x\sqrt{2}(\sqrt{3}+1)=\sqrt{2}(1+x)+\sqrt{3}$	$[(2\sqrt{3}+3\sqrt{2})/6]$
8	$3+x(\sqrt{3}+1)=x(1-\sqrt{2})+5+\sqrt{6}$	$[\sqrt{2}]$
9	$\frac{x}{2\sqrt{2}}-\frac{x-3}{3\sqrt{2}}-\frac{x}{2}=0$	$\left[\frac{6}{17}(3\sqrt{2}+1)\right]$
10	$x(3-\sqrt{3})=6\left(\frac{x}{3-\sqrt{3}}-2\right)$	$[2\sqrt{3}]$