SEMPLIFICA I SEGUENTI RADICALI, SE POSSIBILE ($x \geq 0, y \geq 0, a \geq 0, b \geq 0$)

1) $\sqrt[3]{8a^6b^{18}}$ $\qquad \sqrt{4a^2+4a+1}$ $\qquad \sqrt{x^2-y^2}$

TRASPORTA FUORI DAL SEGNO DI RADICE ($x \geq 0, a \geq 0, b \geq 0, c \geq 0$, $y \geq 0$)

2) $\sqrt{\frac{1}{8}a^5bc^3}$ $\qquad \sqrt[3]{a^5(a-1)^3}$ $\qquad \sqrt[4]{a^5b+a^4c}$ $\qquad \sqrt[3]{\frac{x^4y^2-x^4}{y^5}}$

CALCOLA

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

4) $\left(\sqrt{\sqrt{a\sqrt[3]{\frac{1}{b}}}} : \sqrt[3]{\sqrt{a\sqrt{\frac{b}{a}}}}\right)^3=$

5) $\sqrt[3]{\frac{3x+3}{x^3+3x^2+3x+1}} \cdot \sqrt{\frac{x^3-3x^2+3x-1}{3x-3}} =$

6) $2\sqrt{x^3+x^2}+\sqrt{x^4+x^6}+\sqrt{x^3+x^2}$

7) $\sqrt{6}+\sqrt{12}-\sqrt{24}-\sqrt{27}=$

8) DETERMINA LE CONDIZIONI DI ESISTENZA DEI SEGUENTI RADICALI =

$\sqrt{\frac{8x+2}{x}}$ $\qquad \sqrt[4]{5-x}$ $\qquad \sqrt[3]{x}$ $\qquad \sqrt[3]{\frac{1}{x-1}}$

COMPLETA

9) $\sqrt[5]{10}=\sqrt[15]{\dots}$ $\qquad \sqrt[3]{1}=\sqrt[30]{\dots}$ $\qquad \sqrt{a^3}=\sqrt[\dots]{a^9}$

1) R: [$2a^2b^6$; $2a+1$; irriducibile]

2) R: [$\frac{1}{2}a^2c\sqrt{\frac{1}{2}abc}$; $a(a-1)\sqrt[3]{a^2}$; $a\sqrt[4]{ab+c}$; $\frac{x}{y}\sqrt[3]{\frac{x(y^2-1)}{y^2}}$]

3) R: $-30-22\sqrt{2}+2\sqrt{3}$

4) $\sqrt[6]{\frac{a}{b}}$ $\qquad$ 5) (Razionalizzazione): $\frac{x-1}{\sqrt[6]{3(x+1)^4}}=\frac{x-1}{x+1}\sqrt[6]{3^5(x+1)}$

6) $4x\sqrt{x+1}$; $\qquad$ 7) $-\sqrt{6}-\sqrt{3}=-\sqrt{3}(\sqrt{2}+1)$ $\qquad$ 8) $x \leq \frac{1}{4} \cup x>0$; $x \leq 5$; $\forall x \in \mathbb{R}$; $x \neq 1$

9) [1000 ; 1 ; indice = 6]