P. e Rad.: Com. Serie 9

Regole radicali:

Regole potenze: 9.1.

1) a) $\sqrt[5]{32^3} = \sqrt[5]{(2^5)^3} = \sqrt[\cancel{5}]{(2^3)^{\cancel{5}}} = 2^3$ $\quad (2^5)^{3/5} = 2^3$

b) $(2^4)^{\frac{3}{4}} = \sqrt[4]{(2^4)^3} = \sqrt[\cancel{4}]{(2^3)^{\cancel{4}}} = 2^3$ $\quad (2^4)^{3/4} = 2^3$

c) $\sqrt[3]{27^2} = \sqrt[3]{(3^3)^2} = \sqrt[\cancel{3}]{(3^2)^{\cancel{3}}} = 3^2$ $\quad (3^3)^{2/3} = 3^2$

d) $\sqrt[3]{8^{-2}} = \sqrt[3]{(2^3)^{-2}} = \sqrt[\cancel{3}]{(2^{-2})^{\cancel{3}}} = 2^{-2} = \frac{1}{4}$ $\quad (2^3)^{-2/3} = 2^{-2}$

2) $\left[\left(x^{\frac{\cancel{2}}{\cancel{5}}}\right)^{\frac{5}{8}} : x^9\right] : x^{-6} = \left(x^2 : x^9\right) : x^{-6} = x^{-7} : x^{-6} = x^{-1} = \frac{1}{x}$

3) $5 \cdot 3\sqrt{2} - 7 \cdot 2\sqrt{3} + 5\sqrt{3} - 7\sqrt{2} =$

$= 15\sqrt{2} - 14\sqrt{3} + 5\sqrt{3} - 7\sqrt{2} =$

$= 8\sqrt{2} - 9\sqrt{3}$

4) $\left(3^4\right)^{-3/4} \cdot 3^2 : 3^{-2} + \left(5^2\right)^{-1/2} \cdot 5^3 =$

$= 3^{-3} \cdot 3^2 : 3^{-2} + 5^{-1} \cdot 5^3 = 3^{-3+2-(-2)} + 5^{-1+3} = 3 + 5^2 = 28$

5) $\left(\frac{a^{\frac{26}{15}}}{a^{\frac{4}{15}}}\right)^5 : \left(a^{\frac{5}{4}} \cdot a^{\frac{7}{4}}\right)^3 = \left(a^{\frac{24}{15}}\right)^5 : \left(a^3\right)^3 =$

$= a^{\frac{24}{3}} : a^9 = a^8 : a^9 = a^{-1} = \frac{1}{a}$

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6) $\frac{3^{2/3} : 3^{-1/3}}{9^{-1/9} : 9^{8/9}} = \frac{3^{\frac{2}{3}-(-\frac{1}{3})}}{9^{-\frac{1}{9}-\frac{8}{9}}} = \frac{3}{9^{-1}} = \frac{3}{3^{-2}} = 3^{1-(-2)} = 3^3$

↳ $= 3 \cdot 9 = 27$