22/10/2020

414 $\sqrt{2^{10}+2^{11}}$; $\sqrt{3^7+3^9}$ $[32\sqrt{3}; 27\sqrt{30}]$

$$\sqrt{2^{10}+2^{11}} = \sqrt{2^{10}(1+2)} = 2^5\sqrt{3}$$

$$\sqrt{3^7+3^9} = \sqrt{3^7(1+3^2)} = \sqrt{3^7\cdot 10} = \boxed{3^3}\sqrt{3^1\cdot 10} = 27\sqrt{30}$$

$7:2$ QUOZ $=3$

RESTO $=1$

466 $\sqrt{200}+\sqrt[4]{64}-\sqrt{72}+\sqrt[3]{3}+\sqrt[12]{81} =$ $[6\sqrt{2}+2\sqrt[3]{3}]$

$$= \sqrt{2^3\cdot 5^2} + \sqrt[\cancel{4}\,2]{2^{\cancel{6}\,3}} - \sqrt{2^3\cdot 3^2} + \sqrt[3]{3} + \sqrt[\cancel{12}\,3]{3^{\cancel{4}\,1}} =$$

$$= 2\cdot 5\sqrt{2} + \sqrt{2^3} - 2\cdot 3\sqrt{2} + \sqrt[3]{3} + \sqrt[3]{3} =$$

$$= 10\sqrt{2} + 2\sqrt{2} - 6\sqrt{2} + \sqrt[3]{3} + \sqrt[3]{3} =$$

$$= 6\sqrt{2} + 2\sqrt[3]{3}$$

467 $\sqrt[3]{2}+\sqrt[3]{16}+\sqrt[15]{32}+\sqrt[3]{3}+\sqrt[6]{9}=$ $\left[4\sqrt[3]{2}+2\sqrt[3]{3}\right]$

$$=\sqrt[3]{2}+\sqrt[3]{2^4}+\sqrt[\cancel{15}\,3]{2^{\cancel{5}\,1}}+\sqrt[3]{3}+\sqrt[\cancel{6}\,3]{3^{\cancel{2}\,1}}=$$

$$=\sqrt[3]{2}+2\sqrt[3]{2}+\sqrt[3]{2}+\sqrt[3]{3}+\sqrt[3]{3}=$$

$$=4\sqrt[3]{2}+2\sqrt[3]{3}$$

473 $\sqrt{\dfrac{3}{4}}+\sqrt{3}+\sqrt{12}=$

$$=\sqrt{\frac{3}{2^2}}+\sqrt{3}+\sqrt{2^2\cdot 3}=$$

$$=\frac{1}{2}\sqrt{3}+\sqrt{3}+2\sqrt{3}=\left(\frac{1}{2}+1+2\right)\sqrt{3}=$$

$$=\frac{7}{2}\sqrt{3}$$

474 $\sqrt{\frac{3}{4}}+\sqrt{\frac{27}{4}}+\sqrt{\frac{1}{2}}+\sqrt{\frac{25}{2}}=$ $\qquad [2\sqrt{3}+3\sqrt{2}]$

$$=\sqrt{\frac{3}{2^2}}+\sqrt{\frac{3^3}{2^2}}+\sqrt{\frac{1}{2}}+\sqrt{\frac{5^2}{2}}=$$

$$=\frac{1}{2}\sqrt{3}+\frac{3}{2}\sqrt{3}+\sqrt{\frac{1}{2}}+5\sqrt{\frac{1}{2}}=$$

$$=2\sqrt{3}+6\sqrt{\frac{1}{2}}=2\sqrt{3}+6\sqrt{\frac{2}{4}}=$$

$$=2\sqrt{3}+6\sqrt{\frac{2}{2^2}}=2\sqrt{3}+\frac{6}{2}\sqrt{2}=2\sqrt{3}+3\sqrt{2}$$

ALTRO MODO

$$6\sqrt{\frac{1}{2}}=6\cdot\frac{1}{\sqrt{2}}\cdot\frac{\sqrt{2}}{\sqrt{2}}=\frac{\overset{3}{\cancel{6}}\sqrt{2}}{\cancel{2}}=3\sqrt{2}$$

VOGLIO "TOGLIERE" IL RADICALE AL DENOMINATORE

RAZIONALIZZAZIONE DEL DENOMINATORE

ALTRO ESEMPIO

$$\frac{27\sqrt{5}}{\sqrt{3}}=\frac{27\sqrt{5}}{\sqrt{3}}\cdot\frac{\sqrt{3}}{\sqrt{3}}=\frac{\overset{9}{\cancel{27}}\sqrt{15}}{\underset{1}{\cancel{3}}}=9\sqrt{15}$$

SONO LO STESSO NUMERO SCRITTO IN 2 MODI DIVERSI