

Suma / resta de radicales

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$$\text{a)} \quad -4\sqrt{5} + 5\sqrt{5} = 1 \cdot \sqrt{5} = \sqrt{5}$$

$$\text{c)} \quad \frac{3\sqrt{5} - \sqrt{20}}{3\sqrt{5} - \sqrt{2^2 \cdot 5}} = \frac{3\sqrt{5} - 2\sqrt{5}}{\sqrt{5}}$$

$$\text{b)} \quad \frac{17\sqrt{2} - 9\sqrt{8}}{17\sqrt{2} - 9\sqrt{2^3}} = \frac{17\sqrt{2} - 9 \cdot 2\sqrt{2}}{17\sqrt{2} - 18\sqrt{2}} = \frac{-\sqrt{2}}{-\sqrt{2}}$$

$$\text{d)} \quad \frac{4\sqrt{2} + 3\sqrt{18}}{4\sqrt{2} + 3\sqrt{2 \cdot 3^2}} = \frac{4\sqrt{2} + 3 \cdot 3\sqrt{2}}{4\sqrt{2} + 9\sqrt{2}} = \frac{13\sqrt{2}}{13\sqrt{2}}$$

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$$\text{a)} \quad \begin{aligned} &5\sqrt{12} + 7\sqrt{27} - \sqrt{243} - \frac{1}{2}\sqrt{75} \\ &5\sqrt{2^2 \cdot 3} + 7\sqrt{3^3} - \sqrt{3^5} - \frac{1}{2}\sqrt{3 \cdot 5^2} \\ &5 \cdot 2\sqrt{3} + 7 \cdot 3\sqrt{3} - 3^2\sqrt{3} - \frac{1}{2} \cdot 5\sqrt{3} \\ &10\sqrt{3} + 21\sqrt{3} - 9\sqrt{3} - \frac{5}{2}\sqrt{3} \\ &\left(22 - \frac{5}{2}\right)\sqrt{3} \\ &\frac{39}{2}\sqrt{3} \end{aligned}$$

$$\text{b)} \quad \begin{aligned} &4\sqrt{8} - 7\sqrt{50} + \frac{8}{3}\sqrt{18} + 4\sqrt{98} \\ &4\sqrt{2^3} - 7\sqrt{2 \cdot 5^2} + \frac{8}{3}\sqrt{2 \cdot 3^2} + 4\sqrt{2 \cdot 7^2} \\ &4 \cdot 2\sqrt{2} - 7 \cdot 5\sqrt{2} + \frac{8}{3} \cdot 3\sqrt{2} + 4 \cdot 7\sqrt{2} \\ &8\sqrt{2} - 35\sqrt{2} + 8\sqrt{2} + 28\sqrt{2} \\ &9\sqrt{2} \end{aligned}$$

$$\text{c)} \quad \begin{aligned} &12\sqrt[3]{16} - \frac{3}{5}\sqrt[3]{128} + 7\sqrt[3]{54} \\ &12\sqrt[3]{2^4} - \frac{3}{5}\sqrt[3]{2^7} + 7\sqrt[3]{2 \cdot 3^3} \\ &12 \cdot 2\sqrt[3]{2} - \frac{3}{5} \cdot 2^2\sqrt[3]{2} + 7 \cdot 3\sqrt[3]{2} \\ &24\sqrt[3]{2} - \frac{12}{5}\sqrt[3]{2} + 21\sqrt[3]{2} \\ &\left(45 - \frac{12}{5}\right)\sqrt[3]{2} \\ &\frac{213}{5}\sqrt[3]{2} \end{aligned}$$