

ADD / SUBTRACTING RADICALS

You can only +/- like radicals

→ same index

→ same radicand

$$\begin{array}{c} \text{index} \\ \rightarrow \sqrt[5]{23} \\ \text{radicand} \end{array}$$

$$2\sqrt{7} + 3\sqrt{7} = 5\sqrt{7}$$

$$6\sqrt{2} - 3\sqrt{5} + 4\sqrt{2}$$

$$= 10\sqrt{2} - 3\sqrt{5}$$

apples oranges

$$2\sqrt{2} - 4\sqrt{50}$$

↓ $\sqrt{5} \cdot \sqrt{2}$

$$2\sqrt{2} - 4 \cdot 5\sqrt{2}$$

$$2\sqrt{2} - 20\sqrt{2} = -18\sqrt{2}$$

Try

$$2+3+6=11$$

$$(1) \underline{2}\sqrt{5} + \underline{3}\sqrt{5} + \underline{6}\sqrt{5} = \underline{\underline{11\sqrt{5}}}$$

$$(2) \sqrt{5} + \sqrt{5} + \sqrt{5} = \overset{1+1+1=3}{\underline{\underline{3\sqrt{5}}}}$$

$$(3) \underline{2}\sqrt{2} - \underline{3}\sqrt{10} + \underline{5}\sqrt{2} - \underline{4}\sqrt{10} = 7\sqrt{2} - 7\sqrt{10}$$

$$(4) \sqrt[4]{12} + \sqrt[9]{27} = 2\sqrt{3} + 3\sqrt{3} = \underline{\underline{5\sqrt{3}}}$$

$$(5) \frac{\sqrt{50}}{\sqrt{25 \cdot 2}} + \frac{\sqrt{98}}{\sqrt{49 \cdot 2}} - \sqrt{2} + 6\sqrt{7}$$

$$\underline{5\sqrt{2}} + \underline{7\sqrt{2}} - \underline{\sqrt{2}} + \underline{6\sqrt{7}} = 11\sqrt{2} + 6\sqrt{7}$$

$$(6) 8\sqrt{7} + 2\sqrt{28}$$

$$8\sqrt{7} + 2 \cdot \sqrt[2]{4 \cdot 7}$$

$$8\sqrt{7} + 4\sqrt{7} = \underline{\underline{12\sqrt{7}}}$$