Adding and Subtracting

You can only add or subtract radical with the same <u>INDEX</u> and <u>RADICAND</u>

$$\sqrt{\#}$$

How to add or subtract:

1. Simplify the radicals

2. Identify radicals and radicand

3. Add/subtract the coefficients of like radicals.

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1. $-3\sqrt{7} - 4\sqrt{7}$ $-3x \, -4x$

$-3-4$ $-7x$

$\boxed{-7\sqrt{7}}$

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2. $2\sqrt{5} + 6\sqrt{5}$

$2+6$

$\boxed{8\sqrt{5}}$

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3. $12\sqrt{50} + 6\sqrt{2}$

$12 \cdot 5\sqrt{2}$

$60\sqrt{2} + 6\sqrt{2}$

$\boxed{66\sqrt{2}}$

50

$2 \cdot 25$

$\boxed{5 \cdot 5}$

$5\sqrt{2}$

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4. $-3\sqrt{45} + 2\sqrt{20} + 3\sqrt{8}$

45 20 8

$9 \cdot 5$ $4 \cdot 5$ $4 \cdot 2$

$3 \cdot 3$ $2 \cdot 2$ $2 \cdot 2$

$-3 \cdot 3\sqrt{5}$ $2 \cdot 2\sqrt{5}$ $3 \cdot 2\sqrt{2}$

$-9\sqrt{5} + 4\sqrt{5} + 6\sqrt{2}$

$\boxed{-5\sqrt{5} + 6\sqrt{2}}$