<u>Like Radicals</u>- radicals with the same index and the same radicand \*\*Only like radicals can be combined in addition and subtraction

## Adding and Subtracting Radicals

Simplify.

1.  $5\sqrt{2} - \sqrt{2}$  2.  $3\sqrt{5} + 8\sqrt{5} - 14\sqrt{5}$  3.  $\sqrt{18x^2} + \sqrt{8x^2}$ 

4. 
$$\sqrt{5} - \sqrt{3} + \sqrt{12}$$
 5.  $x\sqrt{x} + 7x\sqrt{x}$  6.  $\sqrt[3]{125a} - \sqrt[3]{64a}$ 

## **Multiplying Two Radicals**

Simplify the following.

7.  $\sqrt{13} \cdot \sqrt{52}$  8.  $5\sqrt{3} \cdot 2\sqrt{7}$ 

9.  $7\sqrt{5x} \cdot 3\sqrt{8x}$ 

10.  $2\sqrt{5a^2} \cdot 6\sqrt{10a^3}$ 

11. 
$$\sqrt{7}(\sqrt{7}-\sqrt{14})$$
 12.  $(\sqrt{2}+4)(\sqrt{2}-4)$ 

13. 
$$(\sqrt{5}+\sqrt{3})(\sqrt{5}+\sqrt{3})$$
 14.  $(\sqrt{x}+1)(\sqrt{x}-1)$  (Assume  $x \ge 0$ .)

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