Multiplying Radical (Square Root) Expressions

Name _____

Date _____ Period _____

Product Property of Square Roots

For every number $m \geq 0$ and $n \geq 0$,

$$\sqrt{m \cdot n} = \sqrt{m} \cdot \sqrt{n}$$

$$\sqrt{35} = \sqrt{5 \cdot 7} = \sqrt{5} \cdot \sqrt{7}$$

$$\sqrt{m} \cdot \sqrt{n} = \sqrt{m \cdot n}$$

$$\sqrt{5} \cdot \sqrt{7} = \sqrt{5 \cdot 7} = \sqrt{35}$$

Multiply values outside the radicals and the values under the radicals

Always put final answer in simplified form

Multiply the following:

$\sqrt{8} \cdot \sqrt{3}$

$\sqrt{6} \cdot \sqrt{8}$

$\sqrt{2} \cdot \sqrt{27}$

Multiply the following:

$2\sqrt{2} \cdot 3\sqrt{10}$ $5\sqrt{6} \cdot 2\sqrt{2}$ $3\sqrt{5} \cdot 4\sqrt{10}$

Multiply the following:

$3\sqrt{6} \cdot 3\sqrt{10}$ $\sqrt{12} \cdot 3\sqrt{3}$ $2\sqrt{2} \cdot 6\sqrt{8}$

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For every number $m \geq 0$ and $n \geq 0$,

$$\sqrt{m \cdot n} = \sqrt{m} \cdot \sqrt{n}$$

$$\sqrt{35} = \sqrt{5 \cdot 7} = \sqrt{5} \cdot \sqrt{7}$$

$$\sqrt{m} \cdot \sqrt{n} = \sqrt{m \cdot n}$$

$$\sqrt{5} \cdot \sqrt{7} = \sqrt{5 \cdot 7} = \sqrt{35}$$

Multiply values outside the radicals and the values under the radicals

Always put final answer in simplified form