

SIMPLIFYING RADICALS: GUIDED NOTES

Adding and Subtracting Radicals

Radicals can be added and subtracted only if they are _____ under the _____.

Examples

Simplify.

1) $3\sqrt{7} + 2\sqrt{7}$

2) $\sqrt{3} - \sqrt{48}$

3) $4\sqrt{2} + \sqrt{3} - \sqrt{2}$

4) $\sqrt{90} - \sqrt{40}$

Multiplying and Dividing Radicals

Product property of radicals: $\sqrt{ab} =$

Examples

Simplify.

5) $2\sqrt{2} \cdot -4\sqrt{6}$

6) $4\sqrt{7}(3\sqrt{2} - 2)$

Quotient property of radicals: $\sqrt{\frac{a}{b}} =$

Examples

Simplify.

7) $\sqrt{\frac{16}{49}}$

8) $\sqrt{\frac{121}{25}}$

Rationalizing the Denominator

We never want to leave a _____ in the _____ of a fraction. To rationalize, multiply by _____.

Examples

Simplify.

9) $\frac{3}{\sqrt{11}}$

10) $\frac{1}{\sqrt{4}}$

11) $\sqrt{\frac{8}{5}}$

12) $\sqrt{\frac{12}{6}}$