

Simplify Radical Expressions—Part 1

Simplify the following:

$\sqrt{12}$

$\sqrt{98}$

$\sqrt{150}$

$\sqrt[3]{40}$

$\sqrt[3]{54}$

$\sqrt[3]{240}$

$\sqrt[4]{48}$

$\sqrt[4]{240}$

$\sqrt{x^3 y^2}$

$\sqrt[3]{x^3 y^2}$

$\sqrt[4]{x^4 y^5 z^6}$

$\sqrt[4]{x^{100} y^{52} z^{31}}$

1. Prime factor the number.
2. For square root:
Look for pairs.
For cube root:
Look for 3 of a kind.
For 4th roots:
Look for 4 of a kind. etc.
3. "Take out" the pairs,
3 of kind, etc.