8.2 Multiply and Simplify Radicals

- Need To Know
  - Multiplying of radicals
  - Simplifying radical expressions
    1. With numbers
    2. With variables

Multiplication Property of Radicals

- If A and B are real numbers (≥ 0), then

$$\sqrt{\quad} \cdot \sqrt{\quad} = \sqrt{\quad}$$

Simplify Radical Expressions

- Simplify:

$\sqrt{12}$

$\sqrt{50}$

Perfect Square
1
4
9
16
25
36
49
64
81
100
121
144

Simplify Radical Expressions

- Simplify:

$\sqrt{288y}$

$\sqrt{125a^2}$

Perfect Square
1
4
9
16
25
36
49
64
81
100
121
144

Simplify Radical Expressions

- Simplify:

$\sqrt{x^3}$

$\sqrt{x^4}$

$\sqrt{x^5}$

Square roots undo squares

$\sqrt{x^2} = x$

$\sqrt{x^4} = x^2$

$\sqrt{x^6} = x^3$

$\sqrt{x^8} = x^4$

Practice Simplifying Radicals

- Simplify:

$\sqrt{36a^3}$ $\sqrt{50y^4}$ $4\sqrt{18xy^2}$

Practice Simplifying Radicals

- Simplify:

$\sqrt{6}\cdot\sqrt{18}$ $\sqrt{3xa}\cdot\sqrt{3xb}$ $\sqrt{50ab}\cdot\sqrt{10a^2b^7}$

end