

Warmup

1.) $x^2 = 36$

2.) $x^2 = 16$

3.) $5x^2 = 12$

4.) $x^3 = 125$

5.) $x^3 = -64$

6.) $3x^3 = 24$

Warm-up (Continued)

7.) 3^4

8.) $(-3)^4$

9.) 7^5

10.) $\left(\frac{3}{5}\right)^3$

SIMPLIFYING RADICALS

SECTION 9.2



Product Property

$$\sqrt{a} \cdot \sqrt{b} = \sqrt{a \cdot b}$$

□ 1.) $\sqrt{5} \cdot \sqrt{3} =$ 2.) $\sqrt{3} \cdot \sqrt{7} =$

□ 3.) $\sqrt{10} \cdot \sqrt{8} =$ 4.) $\sqrt{2} \cdot \sqrt{7} =$

Simplifying Radicals

- 1.) Break down numbers in the radicals into prime numbers
- 2.) Pick groups of 2.
- 3.) Take out Groups
- 4.) Leave the numbers with no pair on the inside

Examples:

□ 1.) $\sqrt{28}$

2.) $\sqrt{20}$

□ 3.) $\sqrt{50}$

4.) $\sqrt{18}$

Examples:

□ 5.) $\sqrt{12}$

6.) $\sqrt{44}$

□ 7.) $6\sqrt{32}$

8.) $2\sqrt{63}$

Quotient Property

$$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$$

- Can't have a fraction under the radical
 - ▣ See if the bottom is a perfect square
 - ▣ Simplify the numbers under the radical

Examples

□ 1.) $\sqrt{6/4}$

2.) $\sqrt{7/4}$

□ 3.) $\sqrt{10/5}$

4.) $\sqrt{10/16}$

Examples (cont):

□ 5.) $\sqrt{\frac{9}{25}}$

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