

Simplifying Radicals

Lesson objectives

Students will be able to add and subtract like radicals by first simplifying.

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Lesson objectives

Teachers' notes

Lesson notes



IV. Simplifying Radicals

A. Product Property The square root of a product equals the product of the square roots of the factors.

$$\sqrt{ab} = \sqrt{a} \cdot \sqrt{b} \text{ where } a \geq 0 \text{ and } b \geq 0$$



Perfect Squares 1, 4, 9, 16, 25, 36, 49, 64, 81, 100

Examples:

$$1. \sqrt{20} = \sqrt{4 \cdot 5} = 2\sqrt{5}$$

$$3. \sqrt{50} = \sqrt{25 \cdot 2} = 5\sqrt{2}$$

$$5. \sqrt{162} = \sqrt{81 \cdot 2} = 9\sqrt{2}$$

$$2. \sqrt{32} = \sqrt{16 \cdot 2} = 4\sqrt{2}$$

$$4. \sqrt{300} = \sqrt{100 \cdot 3} = 10\sqrt{3}$$

$$6. \sqrt{48} = \sqrt{16 \cdot 3} = 4\sqrt{3}$$

$$\begin{aligned} &\sqrt{4} \cdot \sqrt{12} \\ &= 2\sqrt{12} \\ &= 2\sqrt{4 \cdot 3} \\ &= 2 \cdot 2 \cdot \sqrt{3} \\ &= 4\sqrt{3} \end{aligned}$$

