

11.2 - MORE Radicals

- combining like Radicals

Ex 1: $\sqrt{2} + 3\sqrt{2} = 4\sqrt{2}$

Ex 2: $4\sqrt{3} - 2\sqrt{3} = 2\sqrt{3}$

Simplifying like radicals

$$\text{Ex: } 7\sqrt{3} - \sqrt{12}$$

$$7\sqrt{3} - \sqrt{4 \cdot 3}$$

$$7\sqrt{3} - 2\sqrt{3} = 5\sqrt{3}$$

$$\text{Ex 2: } 3\sqrt{20} + 2\sqrt{5}$$

$$3\sqrt{4 \cdot 5} + 2\sqrt{5}$$

$$3 \cdot 2\sqrt{5} + 2\sqrt{5}$$

$$6\sqrt{5} + 2\sqrt{5} = 8\sqrt{5}$$

distributive Property

$$\sqrt{3}(\sqrt{6} + 7)$$

$$\sqrt{18} + 7\sqrt{3}$$

$$\sqrt{9 \cdot 2} + 7\sqrt{3}$$

$$\boxed{3\sqrt{2} + 7\sqrt{3}}$$

$$\sqrt{5a}(\sqrt{5a} + 3)$$

$$\sqrt{25a^2} + 3\sqrt{5a}$$

$$\boxed{5a + 3\sqrt{5a}}$$

Foiling

$$(\sqrt{5} - 2\sqrt{15})(\sqrt{5} + \sqrt{15})$$

$$\sqrt{25} + \sqrt{75} - 2\sqrt{75} - 2\sqrt{225}$$

$$5 + \sqrt{25 \cdot 3} - 2\sqrt{25 \cdot 3} - 2(15)$$

$$5\sqrt{3} - 10\sqrt{3} - 30$$

$$-25 - 5\sqrt{3}$$

$$-5(5 + \sqrt{3})$$

$$(\sqrt{7} + 4)^2$$

$$(\sqrt{7} + 4)(\sqrt{7} + 4)$$

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#1-27 odd
39-45 odd