

Section 10.4—Add, Subtract, Multiply Radicals

What are like terms?

What are LIKE
RADICALS?

How do you ADD or
SUBTRACT LIKE
RADICALS?

Example Add or subtract

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

$$5\sqrt[4]{5x^2} + \sqrt[4]{5x^2}$$

$$9x\sqrt{5x} - 2y\sqrt{3y} - 6x\sqrt{5x} + 7y\sqrt{3y}$$

Example Add or subtract

$$7\sqrt{3} + \sqrt{12}$$

$$3\sqrt[3]{24} - 2\sqrt[3]{3}$$

$$\sqrt{48x^3} + \sqrt{12x^3}$$

$$4\sqrt{24} - 6\sqrt{54}$$

$$4\sqrt{50x^5} - 2\sqrt{18x^5}$$

Do terms have to be
"like terms" to multiply
them?

How do I MULTIPLY
RADICALS?

Example Multiply
 $\sqrt{3}(\sqrt{3} + \sqrt{15})$

$$2\sqrt{11}(3 - 3\sqrt{6})$$

$$(2\sqrt{a} + 3\sqrt{b})(\sqrt{a} - 3\sqrt{b})$$

What is the PRODUCT
OF CONJUGATES?

Multiply
 $(2 + \sqrt{3})(2 - \sqrt{3})$

$$(6 + 4\sqrt{7})(6 - 4\sqrt{7})$$

Summary: