Rational Expressions

To add or subtract radical expressions, the radicands must be alike in the same way that monomial terms must be alike to add or subtract.

 Monomials Rational Expression

 4a + 2a = (4 + 2)a 4$\sqrt{5}$ + 2$\sqrt{5}$ = (4 + 2)$ \sqrt{5}$

 = 6a = 6$\sqrt{5}$

 9b – 2b = (4 + 2)b 9$\sqrt{3}$ - 2$\sqrt{3}$ = (9 - 2)$ \sqrt{3}$

 = 7b = 7$\sqrt{3}$

If you have a common factor, you’ll have a common radical.

4$\sqrt{45}$ + 2 $\sqrt{24}$ 4$\sqrt{12}$ + $6\sqrt{48}$

4$\sqrt{9}\sqrt{6}$ + 2$\sqrt{4}\sqrt{6}$ 4$\sqrt{4}\sqrt{3}$ - 6$\sqrt{16}\sqrt{3}$

12$\sqrt{6}$ + 4$\sqrt{6}$ = 16$\sqrt{6}$ 8$\sqrt{3}$ – 24$\sqrt{3}$ = -16$\sqrt{3}$