

Adding and Subtracting Radicals

N.RN.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents. (i.e., simplify and/or use the operations of addition, subtraction, and multiplication, with radicals within expressions limited to square roots).

A.APR.1 Add, subtract, and multiply polynomials; understand that polynomials form a system analogous to the integers in that they are closed under these operations.

What am I learning today?

How to combine like terms in radical form

How will I show that I learned it?

Simplify an expression and explain why my final answer cannot be further simplified

For all addition and subtraction problems we use CLT!

(Combining Like Terms)

Match the like terms

$$3x^2$$
$$-7x^2$$

$$12xy$$
$$6.2xy$$

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

$$-4x^2\sqrt{x}$$
$$x^2\sqrt{x}$$

When combining like terms, we add or subtract the coefficients only.

$$\text{Ex. 1 } \underline{3}\sqrt{2} - \underline{2}\sqrt{3} + \underline{5}\sqrt{2}$$

$$= 8\sqrt{2} - 2\sqrt{3}$$

$$\text{Ex. 2 } \overbrace{5\sqrt{6} + 3\sqrt{6}} + \overbrace{-7\sqrt{2} + 9\sqrt{2}}$$

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

When adding and subtracting radicals, simplify each radical before combining.

$$4 \cdot 7 \cdot \sqrt{96} + 5 \sqrt{32}$$

$\sqrt{16 \cdot 6}$ $\sqrt{16 \cdot 2}$

$$28\sqrt{6} + 20\sqrt{2}$$

$$\begin{aligned}
 & -\overset{.3}{\sqrt{18}} - \overset{.5}{\sqrt{50}} + \sqrt{2} \\
 & -3\sqrt{2} - 5\sqrt{2} + \sqrt{2} \\
 & = -7\sqrt{2}
 \end{aligned}$$

$$\begin{aligned}
 2. & 3\sqrt{20} + \overset{3}{5}\sqrt{45} - 7\sqrt{5} \\
 & \underline{6\sqrt{5}} + \underline{15\sqrt{5}} - \underline{7\sqrt{5}} \\
 & = 14\sqrt{5}
 \end{aligned}$$

pg. 8-9 only doing
ODDS