Lesson 5.5- SWBAT add and subtract radicals.

Kickoff

Simplify each of the following:

1) $\sqrt{48x^4y^7}$

2) $\sqrt{36x^8}$

3) $\sqrt{80}$

4) $\sqrt{175}$

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

You can **only** add and subtract ***LIKE*** radicals.
Like Radicals: have the same radicand. (number under the radical)

To Add or Subtract Radicals:
1) Simplify the radical
2) Combine like radicals (only change the coefficients)

Examples:

1) $3\sqrt{2} - 2\sqrt{2}$

2) $5\sqrt{4} + \sqrt{4}$

3) $\sqrt{48} + \sqrt{12} - \sqrt{3}$

4) $\sqrt{125} + \sqrt{12} - \sqrt{45} + \sqrt{75}$

5) $-8\sqrt{6} + \sqrt{10}\sqrt{8} + \sqrt{216}$

6) $\sqrt{50x^4} + \sqrt{200x^4}$

4, 9, 16, 25, 36, 49, 64, 81, 100

7) $\sqrt{9x^3} - \sqrt{9x^3}$

8) $-2\sqrt{5x} + 3\sqrt{20x}$

9) $\sqrt{8mn^2} + 2n\sqrt{18m}$

10) $3\sqrt{18} - 2\sqrt{2}$

11) $-2\sqrt{20} + 2\sqrt{18} - 2\sqrt{5}$

12) $2\sqrt{24m} - 2\sqrt{54m}$

13) $-\sqrt{5wz} + 2\sqrt{5wz}$

14) $\sqrt{5y^2} + y\sqrt{45}$

15) $-\sqrt{27} - 3\sqrt{45} - \sqrt{20} + 2\sqrt{45}$

16) $-3\sqrt{3} - \sqrt{8} - 3\sqrt{3}$