

## 6.5 Operations with Radicals - Day 1 Notes

Objective: adding, subtracting and multiplying radicals

When adding and subtracting radicals, simplify each radical to find like terms. Only like terms can be combined.

Ex.  $\sqrt{98} - 2\sqrt{32} =$

1.  $4\sqrt{8} + 3\sqrt{50}$

2.  $2\sqrt{48} - \sqrt{75} - \sqrt{12}$

3.  $\sqrt{12} - 2\sqrt{3} + \sqrt{27}$

4.  $5\sqrt{12} + 2\sqrt{27} - \sqrt{8}$

5.  $5\sqrt{32} + \sqrt{27} + 2\sqrt{75}$

## Multiplying radicals:

We use the product property to break radicals apart or put them together in order to simplify.

Product Property of Radicals: $\sqrt[n]{ab} = \sqrt[n]{a} * \sqrt[n]{b}$
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ex.  $\sqrt{32x^8}$

6.  $\sqrt{50x^4}$

Ex.  $\sqrt[3]{125t^6w^{10}}$

7.  $\sqrt[3]{8g^3k^8}$

ex.  $\sqrt[3]{-54x^6y^{11}}$

8.  $\sqrt[3]{-16y^4z^{12}}$